

## MIND

## A QUARTERLY REVIEW

OF

## PSYCHOLOGY AND PHILOSOPHY.



## I.—CONSCIOUSNESS OF TIME.

IT is indisputable that our consciousness of the passage of time is determined by our consciousness of the sequence of events. We have only to reflect on the oblivion to time which is one characteristic of profound sleep, or of the total unconsciousness of its passage that occurs during coma, to perceive that our appreciation of time is nothing more than a mental abstraction of the sequence-relations among the events which have been presented to consciousness during the interval contemplated. Indeed this truth is so obvious that it has hitherto prevented psychologists from making any further analysis of our time-consciousness. Having explained its essential character, there seems at first sight no reason for further enquiry, and therefore, so far as I am aware, no one has ever waited to ascertain whether this explanation is complete, in the sense of leaving nothing further to be explained. But I think that a few moments' reflection will show that we are far from having explained all the facts of our time-consciousness when we refer them to the general principle above stated. For, granting that our time-consciousness is a mental abstraction of the sequence-relations among events, the question immediately arises, Are the events which by their sequence determine our time-consciousness all of equivalent value in so doing? In other words, is it only the quality of number that gives to these

events their time-measuring property, or are there likewise other qualities in these events which may give them as time-measures a differential value? Now, if number is the only quality whereby successive events determine our appreciation of the passage of time, it is evident that there is no need for further analysis in the psychology of time-consciousness, for in this case time-consciousness would merely be a mental abstraction of the number of events which by their sequence generated our time-consciousness of the interval during which they were taking place. But, on the other hand, if number is not the only quality whereby successive events determine our appreciation of time, it is evident that an interesting question for psychological analysis is opened up; for in this case it remains to ascertain the other quality or qualities in successive events to which their differential value as time-measurements is due. Let us then, in the first place, interrogate consciousness with the view of ascertaining whether it is number alone that gives to successive events their property of generating in consciousness our appreciation of time.

Almost as soon as this question is carefully put, consciousness replies that the mere number of successive events is certainly not the only factor in determining their influence on our estimate of the time during which they were taking place. We have but to reflect on the extraordinary discrepancies in our estimate of time when we compare such experiences as the following. Suppose we have to row or to run a race concerning the result of which we are anxious, how great a contrast there is between the apparent duration of the five minutes before the start—which seem like an hour—and the five minutes during which we are actively engaged in the race. The same incredible discrepancy in our estimate of time is observable shortly before and shortly after the commencement of a competitive examination, or even of a public lecture. Again, how different is our estimate of time when we take a solitary "constitutional" walk, and when we return over the same ground with an intellectual companion. And, to give only one other instance, how interminable the time seems while we are waiting an hour or two at a country railway station, as compared with a similar interval after we have met a friend in the train and are passing through novel and beautiful scenery. Now in all these cases—and scores of others might be added—it is the interval during which there is a comparative *absence* of events that appears so protracted, while the similar interval which immediately succeeds it, and which by comparison appears so brief, is an interval which is crowded with striking events, or a succession of vivid states of consciousness. Thus I think there can be no question

that it is not number alone that gives to successive events in consciousness their character of time-measurers. But, before proceeding to a further analysis, it is desirable to be a little more explicit about the term "successive events." All that can be properly denoted by this term as above used is successive states of consciousness, and it is in this sense that I shall use the term throughout. This being understood, it may be objected to the above illustrations that as consciousness can only exist in virtue of a perpetual change of states, it is really inaccurate to speak of a greater *number* of such changes taking place in any given interval of time than in any other interval of equal duration. Into this question, however, it is not necessary to go, because even if the point were conceded that in equal intervals of time consciousness undergoes equal numbers of changes, it would only tend to emphasise my statement, *viz.*, that as equal intervals of time may appear to be of very different durations, the mere *number* of the changes of our states of consciousness during the intervals compared cannot be the only factor in determining our appreciation of their respective lengths. This latter position then being now established, the problem which we have to solve is merely this—What other qualities besides that of the number of their changes give to states of consciousness their value as time-measurers? From the examples above cited, there would at first sight appear to emerge the very paradoxical inference, that the more vivid the states of consciousness, and the more abrupt their changes, the less is their value as time-measurers. This would be a very paradoxical inference, because, if the consciousness of time is determined by the number of changes in our states of consciousness, *à priori* we should expect that the more decided these changes are, and the consequently deeper impression which in memory they leave of their occurrence, the greater would be their value as time-measurers. But there is, I think, a road of escape from this paradoxical inference; and, as in all such cases, this road consists in the recognition of an additional cause. Before stating this additional cause, however, I should like to show that if examples are chosen in which its disturbing influence is absent, the *à priori* expectation above mentioned is found to be realised. Thus, for instance, it is a familiar observation that in childhood the years seem of much longer duration than in manhood; and the reason of this I take to be that, life being new to children, they derive strong impressions from numberless events which produce no such impressions in adults. Again, a day's railway travelling in a new country appears of longer duration than a day which is employed in our ordinary avocations, and especially so to persons who are not accustomed to railway travelling. And this is doubtless

due to the comparatively novel order of changes in our states of consciousness which a day's railway travelling entails. Similarly I have often heard persons who habitually live in the country remark that a day spent in London sight-seeing appears to them very protracted. And numberless other instances might be given to show that when the disturbing cause which I am about to consider is absent, a long series of abrupt changes among vivid states of consciousness has, as we should expect, a greater value in generating time-consciousness than has a similar series of slight changes among comparatively faint states of consciousness.

I will now proceed to state what I conceive to be the disturbing cause which in numberless cases gives rise to what I may term abnormal time-consciousness as its effect. Every scientific experimenter must be able to recall instances in which it was necessary for him to note the passage of successive seconds during a greater or less interval of time; and, if so, he can scarcely fail to remember how interminably long such an interval appeared. But if any one who reads this paper should not have had any actual experience of this kind, it will be very easy for him to make a trial, by laying his watch on the table and resolving to keep his whole attention fixed on the movements of the minute hand for an interval of five or ten minutes, without allowing any other thoughts to enter his mind; the time will then appear to him incredibly long. Now, why should this be? for it is evident that in such a case there are no *vivid* or *abrupt* changes of conscious states; on the contrary, the experiment is marked by the strenuous endeavour to prevent any such changes. The answer I believe to be, that such changes of consciousness as occur under these circumstances all belong to one class—*viz.*, those which have reference to their own sequence, or, in other words, to the passage of time.\* And

\* It will conduce to clearness in what follows if I speak of the contemplation of the passage of time as a reference by consciousness to the sequence of its own states. But in thus speaking I would not, of course, be understood to mean that the reference thus made by consciousness is made *consciously*. Our cognisance of the passage of time is determined by our taking a retrospect of the changes in our states of consciousness which have occurred between two points of the linear series. As each change occurs, it leaves behind it in memory a faint record of its occurrence, and it is the sum-total of these records in memory which enable us to take cognisance of time. Consequently, when our attention is fixed upon the passage of time as itself the subject of contemplation, although we are not consciously, or knowingly, contemplating these subjective sequence-changes which determine our cognisance of the passage of time, it must nevertheless be due to their occurrence that the time on which our attention is fixed is appreciated. Therefore, when our attention is fixed upon the passage of time, consciousness may properly be said to be engaged in an act of introspection.



this I hold to be the disturbing cause of which we are in search : in whatever degree states of consciousness have reference to their own sequence, in that degree is their value as time-measurers enhanced. At all events, in my own case I have invariably found this formula to apply ; and I cannot but think that psychologists will find on enquiry that it is a general principle. *Why* it should be so I can scarcely venture to explain, unless it is that time-consciousness, being nothing more than the memory of a series of successive changes in consciousness, when the attention is particularly directed to the occurrence of such changes, so that these changes themselves form the whole content of consciousness, the fact of their sequence-relation is more indelibly impressed on memory ; and thus on taking a retrospective estimate of their number we greatly exaggerate it. But, however this may be, I am pretty sure of the fact, that our time-consciousness is made up of two factors, which are in a large measure complementary to one another. For, our appreciation of time being nothing more than our generalised recollection of the number of changes which have taken place in our states of consciousness, one of the factors determining our appreciation of time I hold to be the *vividness* of the conscious states and the *abruptness* of their changes, which cause them to stand out prominently in our retrospective survey ; and the other factor I hold to be the degree in which the states of consciousness have had reference to their own sequence, which has the effect of engendering in consciousness a disproportionate estimate of the number of their sequence-relations.

It is needless to dwell on the operation of the first of these two factors, because, as before stated, this is the factor which all psychologists will be prepared to concede as obvious. But with regard to the other factor I may offer a few general remarks. In the first place, I believe it is owing to this factor that *observation*, as distinguished from *action*, makes time seem long. For during action consciousness is largely occupied with effecting whatever adaptations—psychical or mechanical—we may happen to be engaged upon ; while during observation consciousness is free to contemplate, with a much more undivided attention, the sequence-relations of whatever phenomena we may happen to be observing. Hence, notwithstanding that during a period of activity we are usually subject to more intense and abrupt changes in our states of consciousness than we are during a period of passively observing, and notwithstanding that on this account the more obvious factor of our time-consciousness must be more intensely operative in the former than it is in the latter case, nevertheless, it is in the latter case that time seems longest, because the less obvious factor of our time-

consciousness is here more intensely operative than it is in the former case. So that our estimate of time during a period of action or of observation respectively would seem to be determined by the proportional value of the two complementary factors of our time-consciousness.

As another general example of the action of the less obvious factor, I may allude to a circumstance which I think will scarcely be disputed, *viz.*, that in all cases where we "look forward" to the passage of a given interval of time, and so unduly occupy consciousness with the sequence-relations among its own states, the given interval seems to vary inversely as the degree of our desire for it to terminate—that is, as the earnestness with which our attention is fixed on the passage of time. A good example of this quantitative relation is to be found in our experiences while railway-travelling; for, however long the journey may be, the latter portion of it seems more tedious than the former; so that, for instance, if the journey is of two hours' duration, the last hour seems longer than the first one, but if the journey is of twelve hours' duration the second hour seems no longer than the first one, while the twelfth hour seems very protracted. Now the explanation of this I believe to be, that as the end of our journey approaches we "look forward" to its termination more persistently than at any other time during its progress. And it is to be observed, as we should expect, that it makes little or no difference whether our desire for the rapid passage of time is determined by the anticipation of an agreeable or of a disagreeable event; waiting for the arrival of a very dear friend who has been absent for a long time, for instance, seeming quite as remarkable, in the respects we are considering, as waiting for an examination. Moreover, it is to be further observed, as we should also expect, that the element of *definiteness* in the time which we have to wait makes a great difference in our estimate of its duration. For instance, I have several times observed that if I know there is an hour to wait for a train, the time seems much longer than if I have to wait an hour for a train which is overdue, and the approach of which—there being no telegraphic communication—the officials are momentarily expecting. And this difference is easily explained, if we reflect that in the former case there is no occupation for consciousness in the direction of hope; whereas in the latter case the consciousness of the passage of time is partly obliterated by the continuous state of expectation from moment to moment which to a large extent monopolises consciousness. And, lastly, there is still one other point to be observed, *viz.*, that on taking a retrospect of a given interval of time, it occasionally happens that it may be made alternately to look longer or shorter, according

as we contemplate it in relation to one class or to another class of ideas which we experienced during that interval. Thus, if a man takes a retrospect of the interval of time during which he has been harrassed by a law-suit, it may appear longer when contemplated in relation to the suit than if contemplated in relation to other more agreeable events which transpired during the same period. And I believe the explanation of this to be that, by his recollection of the law-suit, he recalls by association a massive body of ideas, all of which were more or less intimately associated with his previous desire for the rapid termination of the suit; while in the case of the more agreeable events his associations have no reference to any such time-elements.

In conclusion, if this analysis is correct, a question arises as to the relative values of the two factors of our time-consciousness. Now, without pretending to answer this question with any degree of precision, I think it is evident that the factor which I have called the reference of states of consciousness to their own sequence, is, or admits of becoming, a much more important factor—at any rate, for short intervals of time—than the complementary factor which depends on the vivid character of the states of consciousness and the abrupt character of their changes. Thus, for instance, an exciting series of events, though they tend by their exciting character to make the time during which they occur seem slightly longer than a similar interval of time spent in a somewhat less exciting way, nevertheless do not make it seem so long as the same interval of time spent in a condition of *ennui*. For while the exciting character of the events completely excludes all inversion of consciousness upon its own sequence-changes, the state of *ennui* consists in such an inversion of consciousness whereby we are rendered perpetually, though vaguely, cognisant of subjective sequence-changes. Thus it would seem that when the contemplation of such subjective sequence-changes is completely shut out from consciousness, even though these changes are replaced by the most vivid changes of another order, our consciousness of the passage of time is not so marked as it is in the presence of such contemplation; and hence the apparently rapid passage of time during interesting work or exciting action, as compared with the *langweilig* character of *ennui*. To “kill time” is merely to transfer our states of consciousness from reference to their own sequence, to a reference of some other kind, *however interesting or exciting*.\*

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\* Certain narcotic drugs, such as the extract of Indian hemp, when taken in sufficient amount to cause dreaming, are said to make time appear enormously long. This effect is doubtless due to the stimulating action of the drug causing an unusual number of vivid changes in the states of conscious-

## II—EDUCATION AS A SCIENCE. (III.)\*

IN Education, there has to be encountered at every turn the play of Motives. Now the theory of Motives is the theory of Sensation, Emotion and Will; in other words, it is the psychology of the Sensitive and the Active Powers.

### THE SENSES.

The pleasures, the pains and the privations of the Senses are the earliest and the most unfailing, if not also the strongest, of motives. Besides their bearings on self-preservation, they are a principal standing dish in life's feast.

It is when the Senses are looked at on the side of feeling, or as pleasure and pain, that the defectiveness of the current classification into five is most evident. For, although, in the point of view of knowledge or intellect, the five senses are the really important approaches to the mind, yet, in the view of feeling or pleasure and pain, the omission of the varied organic susceptibility leaves a wide gap in the handling of the subject. Some of our very strongest pleasures and pains grow out of the region of organic life—the Digestion, Circulation, Respiration, Muscular and Nervous integrity or derangement.

In exerting influence over human beings this department of sensibility is a first resource. It can be counted on with more certainty than perhaps any other. Indeed, almost all the punishments of a purely physical kind fall within the domain of the organic sensations. What is it that makes punishment formidable, but its threatening the very vitals of the system? It is the lower degree of what, in a higher degree, takes away life.

ness; for on recovery the intoxicated person is said often to remember having imagined a vast number and variety of successive experiences. This distorted appreciation of the passage of time, owing to increased activity of cerebral action, may, I think, be instructively contrasted with the extraordinary accuracy of such appreciation which is displayed by some idiots. Here we have exactly the opposite mental condition to that which is produced by Indian hemp, &c.; for among idiots of a low type there is not much variation in the degree of their mental activity at different times, and as the stream of their consciousness is thus always more or less on a dead level, an act of retrospection affords a more trustworthy measure of time than it does in the case of an individual whose intellectual life is of a more varied character. Dr. Langdon Down tells me that those of his patients who display the faculty of "guessing the time" in a marked degree, are so little prone to conscious mental effort that in order to insure a correct answer they have to be first aroused to reflect by shaking. This fact shows on how dead a level their conscious life must be—thus allowing no opportunity for the occurrence of great variations in either of the factors of time-consciousness. And probably the same explanation applies to the accurate appreciation of time which is displayed by certain animals.

\* Continued from *MIND*, No. VI.

For example, the Muscular System is the seat of a mass of sensibility, pleasurable and painful: the pleasures of healthy exercise, the pains of privation of exercise, and the pains of extreme fatigue. In early life, when all the muscles, as well as the senses, are fresh, the muscular organs are very largely connected both with enjoyment and with suffering. To accord full scope to the activity of the fresh organs is a gratification that may take the form of a rich reward; to refuse this scope is the infliction of misery; to compel exercise beyond the limits of the powers is still greater misery. Our penal discipline adopts the two forms of pain: in the milder treatment of the young, the irksomeness of restraint; in the severe methods with the full-grown, the torture of fatigue.

Again the Nervous System is subject to organic depression; and certain of our pains are due to this cause. The well known state denominated 'Tedium' is nervous uneasiness; and is caused by undue exercise of any portion of the nervous system. In its extreme forms, it is intolerable wretchedness. It is the suffering caused by penal impositions or tasks, by confinement, and by monotony of all kinds. The acute sufferings of the nervous system, as growing out of natural causes, are represented by neuralgic pains. It is in graduated artificial inflictions operating directly on the nerves by means of electricity that we may look for the physical punishments of the future, that are to displace floggings and muscular torture.

The interests of Nourishment, as against privation of food, are necessarily bound up with a large volume of enjoyment and suffering. Starvation, deficiency and inferiority of food, are connected with depression and misery of the severest kind; inspiring the dread that most effectually stimulates human beings to work, to beg, or to steal. The obverse condition of a rich and abundant diet is in itself an almost sufficient basis of enjoyment. The play of motives between those extremes enables us to put forth an extensive sway over human conduct.

An instructive distinction may be made between Privation and Hunger; likewise between their opposites. Privation is the positive deficiency of nourishing material in the blood; Hunger is the craving of the stomach at its usual times of being supplied, and is a local sensibility, perhaps very acute, but not marked by the profound wretchedness of inanition. There may be plenty of material to go on with, although we are suffering from stomachic hunger. Punishing, for once, by the loss of a meal out of the three or four in the day is unimportant as regards the general vigour, yet very telling as a motive. Absolutely to diminish the available nutriment of the system is a measure of great severity; to inflict a pending hunger is not the same thing.

When we unite the acute pleasures of the palate with stomachic relish and the exhilaration of abundance of food material in a healthy frame, we count up a large mass of pleasurable sensibility. Between the lowest demands of subsistence, and the highest luxuries of affluent means, there is a great range, available as an instrumentality of control in the discipline of the young. The usual regimen being something considerably above necessities, and yet beneath the highest pitch of indulgence, room is given to operate both by reduction and by increase of luxury, without either mischief or pampering; and the sensibility in early years being very keen in those heads, the motive power is great. Having in view the necessities of discipline with the young, the habitual regimen in food should be pitched neither too low, nor too high to permit of such variations. It is the misfortune of poverty that this means of influence is greatly wanting; the next lower depth to the delinquent child is the application of the stick.

These are the chief departments of Organic Sensibility that contain the motives made use of in reward and punishment. The inflictions of caning and flogging operate upon the organ of the sense of touch, yet, in reality, the effect is one to be classed among the pains of organic life, rather than among tactile sensations; it is a pain resulting from injury or violence to the tissue in the first instance, and if carried far is destructive of life. Like all physical acute pains it is a powerful deterring influence, and is doubtless the favourite punishment of every age and every race of mankind. The limitations to its use demand a rigorous handling; but the consideration of these is mixed up with motives afterwards to be adverted to.

The ordinary five Senses contain, in addition to their intellectual functions, many considerable sensibilities to pleasure and pain. The pleasures can be largely made use of as incentives to conduct. The pains might of course be also employed in the same way; but with the exceptions already indicated they very rarely are. We do not punish by bad odours, nor by bitter tastes. Harsh and grating sounds may be very torturing, but they are not used in discipline. The pains of sight reach the highest acuteness, but as punishment they are found only in the most barbarous codes.

Postponing a review of the principles of punishment generally, we approach the most perplexing department of motives—the higher Emotions. Few of the simple sensational effects are obtained in purity, that is, without the intermingling of emotions.

#### THE EMOTIONS.

One large department of Psychology is made up of the classi-

fication, definition, and analysis of the Emotions. The applications of a complete theory of Emotion are numerous, and the systematic expansion must be such as to cope with all these applications. We here narrow the subject to what is indispensable for the play of motives in Education.

First of all, it is necessary to take note of the large region of Sociability, comprising the social emotions and affections. Next is the department of Anti-social feeling—Anger, Malevolence, and Lust of Domination. Taking both the sources and the ramifications of these two leading groups, we cover perhaps three fourths of all the sensibility that rises above the senses proper. They do not indeed exhaust the fountains of emotion, but they leave no others that can rank as of first-class importance, except through derivation from them and the Senses together.

The region of Fine Art comprises a large compass of pleasurable feeling, with corresponding susceptibilities to pain; some of this is sensation proper, being the pleasures of the two higher senses; some is due to associations with the interests of all the senses (Beauty of Utility); a certain portion may be called intellectual, the perception of unity in variety; whilst the still largest share appears to be derived from the two great sources above described.

The Intellect generally is a source of various gratifications and also of sufferings that are necessarily mixed up with our intellectual education. Both the delights of attained knowledge, and the pains of intellectual labour have to be carefully counted with by every instructor.

The pleasures of Action or Activity are a class greatly pressed into the educational service, and therefore demand special consideration.

The names Self-esteem, Pride, Vanity, Love of Praise, express powerful sentiments, whose analysis is attended with much subtlety. They are largely appealed to by everyone that has to exercise control over human beings. To gratify them is to impart copious pleasure, to thwart or wound them is to inflict corresponding pain.

Mention has not yet been made of one genus of emotion, formidable as a source of pain, and as a motive to activity, namely, Fear or Terror. Only in the shape of re-action or relief is it a source of pleasure. The skilful management of this sensibility has much to do with the efficient control of all sentient creatures, and still more with the saving of gratuitous misery.

Our rapid review of these various sources of emotion, together with others of a minor kind, proposes to deal once for all, and in



the best manner, with the various educational questions that turn upon the operation of motives. We shall have to remark upon prevailing exaggerations on some heads, and the insufficient stress laid on others ; and shall endeavour to unfold in just proportions the entire compass of our emotional susceptibilities available for the purposes of the teacher.

### *The Emotion of Terror.*

The state of mind named Terror or Fear is described shortly as a state of extreme misery and depression, prostrating the activity and causing exaggeration of ideas in whatever is related to it. It is an addition to pain pure and simple—the pain of a present infliction. It is roused by the foretaste or prospect of evil, especially if that is great in amount, and still more if it is of uncertain nature.

As far as Education is concerned, terror is an incident of the infliction of punishment. We may work by the motive of evil without producing the state of terror, as when the evil is slight and well defined ; a small understood privation, a moderate dose of irksomeness, may be salutary and preventive, without any admixture of the quakings and misery of fear. A severe infliction in prospect will induce fear ; the more so that the subject does not know how severe it is to be.

In the higher moral Education, the management of the passion of fear is of the greatest consequence. The evils of operating by means of it are so great that it should be reserved for the last resort. The waste of energy and the scattering of the thoughts are ruinous to the interests of mental progress. The one certain result is to paralyse and arrest action, or else to concentrate force in some single point, at the cost of general debility. The tyrant, working by terror, disarms rebelliousness, but fails to procure energetic service, while engendering hatred and preparing for his overthrow.

The worst of all modes and instruments of discipline is the employment of spiritual, ghostly, or superstitious terrors. Unless it were to scourge and thwart the greatest of criminals—the disturbers of the peace of mankind, hardly anything justifies the terrors of superstition. On a small scale, we know what it is to frighten children with ghosts ; on a larger scale is the influence of religions dealing almost exclusively in the fear of another life.

Like the other gross passions, Terror admits of being refined upon and toned down, till it becomes simply a gentle stimulation ; and the re-action more than makes up for the misery. The greatest efforts in this direction are found in the artistic handling of fear, as in the sympathetic fears of tragedy, and in the

passing terrors of a well constructed plot. In the moral bearings of the emotions, its refined modes are shown in the fear of giving pain or offence to one that we love, respect, or venerate. There may be a considerable degree of the depressing element even in this situation; yet the effect is altogether wholesome and ennobling. All superiors should aspire to be feared in this manner.

Timidity, or susceptibility to fear, is one of the noted differences of character; and this difference is to be taken into account in discipline. The absence of general vigour, bodily and mental, is marked by timidity; and the state may also be the result of long bad usage, and of perverted views of the world. In the way of culture, or of high exertion in any form, little is to be expected from thoroughly timid natures; they can be easily governed, so far as concerns sins of commission, but their omissions are not equally remediable.

The conquest of superstitious fears is one of the grandest objects of education taken in its widest compass. It cannot be accomplished by any direct inculcation; it is one of the incidental and most beneficial results of the exact study of nature, in other words, science.

#### *The Social Motives.*

This is perhaps the most extensive and the least involved of all the emotional influences at work in Education.

The pleasures of Love, Affection, Mutual Regard, Sympathy, or Sociability, make up the foremost satisfaction of human life; and as such are a standing object of desire, pursuit, and fruition. Sociability is a wholly distinct fact from the prime supports of existence and the pleasures of the five senses, and is not, in my opinion, resolvable into those, however deeply we may analyse it, or however far back we may trace the historical evolution of the mind. Nevertheless, as the supports of life and the pure sense agreeables and exemptions, come to us in great part through the medium of fellow-beings, the value of the social regards receives from this cause an enormous augmentation, and, in the total, counts for one paramount object of human solicitude. It would appear strange if this motive could ever be overlooked by the educator, or by any one; yet there are theories and methods that treat it as of inferior account.

The vast aggregate of social feeling is made up of the intenser elements of sexual and parental love, and the select attachments in the way of friendship, together with the more diffused sentiments towards the masses of human beings. The motive power of the feelings in education may be well exemplified in the intense examples; we can see in these both the merits and defects

of the social stimulus. The *Phædrus* of Plato is a remarkable ideal picture of the study of philosophy prompted by Eros, in the Grecian form of attachment. The ordinary love of the sexes, in our time, does not furnish many instances of the mutual striving after high culture; it may be left out of account in the theory of early education. We frequently find mothers applying to studies that they feel no personal attraction for, in order to assist in the progress of their children. This is much better than nothing; a secondary end may be the initiation and discovery of a taste that at last is self-subsisting.

The intense emotions, from the very fact of their intensity, are unsuited to the promptings of severe culture. The hardest studious work, the laying of foundations, should be over, before the flame of sexual and parental passion is kindled; when this is at its height the intellectual power is in abeyance, or else diverted from its regular course. The mutual influence of two lovers is not educative for want of the proper conditions. No doubt considerable efforts are inspired; but there is seldom sufficient elevation of view on the one side, or sufficient adaptability on the other, to make the mutual influence what Plato and the romancists conceive as possible. By very different and inferior compliances on both sides, the feeling may be kept alive; if more is wanted, it dies away.

The favourable conjunction for study and mental culture in general is friendship between two, or a small number, each naturally smitten with the love of knowledge for its own sake, and basing their attachment on that circumstance. A certain amount of mutual liking in other respects perfects the relationship; but the overpowering sensuous regards of the Platonic couple do not furnish the requisite soil for high culture. As a matter of fact, those attachments, as they existed in Greece, prompted to signal instances of self-devotion in the form of surrendering worldly goods and life itself; and this is the highest fruit that they have yielded in later times.

The remaining aspect of sociability—the influence of the general multitude—holds out the most powerful and permanent motive to conduct, and is largely felt in education. In the presence of an assembly the individual is roused, agitated, swayed; the thrill of numbers is electric; in whatever direction the influence tends, it is almost irresistible. Any effort made in the sight of a host is totally altered in character; and all impressions are very much deepened.

Having in view this ascendancy of numbers, we can make a step towards computing the efficacy of class teaching, public schools, and institutions where great multitudes are brought together. The power exercised is of a mixed character; and the

several elements admit of being singled out. The social motive, in its pure form of gregarious attraction and mutual sympathy, does not stand alone. Supposing it did, the effect would be to supply a strong stimulus in favour of everything that was supported by common consent; the individual would be urged to attain the level of the mass. The drill of a regiment of soldiers corresponds very nearly to this situation; every man is under the eye of the whole, and aspires to be what the rest are, and not much, if anything, beyond: the sympathetic co-operation of the mass, guides, stimulates, and rewards the exertion of the individual. Even, if it were the destination of a soldier to act as an isolated individual, still his education would be most efficaciously conducted in the mass system; being finished off by a certain amount of separate exercise to prepare for the detached or independent position.

In every kind of education in classes, the social feeling, in the pure form now assumed, is frequently operative; and the results are as stated. The tendency is to secure a certain approved level of attainment: those that are disinclined of themselves to work up to that level are pushed on by the influence of the mass. If there were no other strong passions called out in society, the general result would be a kind of communism or socialism characterised by mediocrity and dead level; everything correct up to a certain point, but no individual superiority or distinction.

The influence of society as the dispenser of collective good and evil things, in addition to its operation in the affections and sympathies, is necessarily all-powerful in every direction. If this stimulus were always to coincide with high mental culture, the effect would be something that the imagination hardly dares to shadow forth. It is, however, a power that may be propitiated by many different means, including shams and evasions; and the bearing upon culture is only occasional. Nevertheless, the social rewards have often served to foster the highest genius—the oratory of Demosthenes, and the poetry of Horace and of Virgil—a form of genius notoriously allied with toil and perseverance of the most arduous kind. The same influence, working by disapprobation and approbation combined, is, as I contend, the principal generating source of the ordinary moral sentiments of mankind, and the inspiration of exceptional virtues.

#### *The Anti-Social and Malign Emotions.*

The emotions of Anger, Hatred, Antipathy, Rivalry, Contumely, have reference to other beings, no less than Love or Affection, but in an opposite way. In spite of the painful incidents in their manifestation—the offence in the first instance, and the dangers of reprisal—they are a source of immediate

pleasure, often not inferior, and sometimes superior, in amount to the pleasures of amity and gregarious co-operation. In numerous instances, people are willing to forego social and sympathetic delights to indulge in the pleasures of malignity.

In the work of discipline the present class of emotions occasions much solicitude. They can in certain ways be turned to good account, but for the larger part the business of the educator and the moralist is to counterwork them as being fraught with unalloyed evil.

Being a fitful or explosive passion, Anger should, as far as possible, be checked or controlled in the young; but there are no adequate means, short of the very highest influence of the parent or teacher. The restraint induced by the presence of a dread superior at the time does not sink deep enough to make a habit; opportunities are sought and found to vent the passion with safety. The cultivation of the sympathies and affections is what alone copes with angry passion, both as a disturber of equanimity, and as the prompter of wrong. The obverse of ill-temper is the disposition that thinks less of harm done to self, and more of harm done to other people; and if we can do anything to foster this disposition, we reduce the sphere of malignant passion. The collateral incentives to suppress angry passion include, besides the universal remedy of disapprobation, an appeal to the sense of personal dignity and to the baneful consequences of passionate outbursts.

The worst form of malignant feeling is cold and deliberate delight in cruelty; all too frequent, especially in the young. The torturing of animals, of weak and defenceless human beings, is the spontaneous outflow of the perennial fountain of malevolence. This has to be checked, if need be, at the expense of considerable severity. The inflictions practised on those that are able to re-criminate, generally find their own remedy; and the discipline of consequences is as effectual as any. By having to fight our equals, we are taught to regulate our wrathful and cruel propensities.

The intense pleasure of victory contains the sweetness of malevolence, heightened by some other ingredients. The prostration and destruction of an enemy or a rival is, no doubt, the primary situation where malevolent impulses had their rise; and it continues to be perhaps the very strongest stimulant of the human energies. Notwithstanding its several drawbacks, we are obliged to give it a place among motives to study and mental advancement. In the fight and struggle of party contests, the pleasure of victory enters in full flavour; and in the competitions at school, the same motive is at work.

The social problem of restraining individuals in their selfish

grasping of good things—the mere agreeables and exemptions of the senses—is rendered still more intractable by the craving for the smack of malevolent gratification. Total repression has been found impossible; and ingenuity has devised a number of outlets that are more or less compatible with the sacredness of mutual rights.

One chief outlet for the malevolent impulses is the avenging of wrong, whether private or public. A convicted wrongdoer is punished by the law, and the indignation roused by the crime turns to gratification at the punishment. In the theory of penal retribution, some allowance is claimed for the vindictive satisfaction of the public. To think only of the prevention of crime and the reformation of criminals, and suppressing all resentful feeling, is a severe and ascetic view, beyond human nature as at present constituted. The privacy of the punishments of criminals, in our modern system, is intended to keep the indulgence within bounds.

A wide ideal scope is given to our resentful pleasures in history and in romance; we are gratified by the retribution inflicted upon the authors of wrong. Narratives of evil-doers and of their punishment are level to the meanest capacity; this is the sort of history that suits the imagination even of children.

The highest refinement of the malevolent gratification I take to be the emotion called the Ludicrous and the Comic. There is a laugh of vindictiveness, hatred, and derision, which carries the sentiment as far as it can be carried without blows. But there is also the laugh expressed by Playfulness and Humour, in which the malignant feeling seems almost on the point of disappearing in favour of the amicable sentiment. It is of some importance to understand that in play, fun, and humour, there is a delicate counterpoise of opposing sentiments, an attempt to make the most of both worlds—Love and Anger. The great masterpieces of humour in literature, the amenities of everyday society, the innocent joyousness of laughter—all attest the success of the hazardous combination. Nothing could better show the intensity of the primitive charm of malevolence, than the unction that survives after it is attenuated to the condition of innocent mirthfulness. When the real exercise of the destructive propensity is not to be had, creatures endowed with emotions still relish the fictitious forms. This is seen remarkably in the amicable 'play' of puppies and kittens. Not being endowed with much compass of the caressing acts, they show their love by snarling, and sham biting; in which, through their fortunate self-restraint, they seem to enjoy a double pleasure. In the play of children, there is the same employment of the forms of destructive malevolence, and so long as it is happily

balanced, the effect is highly piquant. By submitting in turn to be victimised, a party of children can secure, at a moderate cost to each, the zest of the malevolent feeling; and this I take to be the quintessence of play.

The use of this close analysis is to fix attention upon the precarious tenure of all these enjoyments, and to render a precise reason for the well-known fact that play or fun is always on the eve of becoming earnest; in other words, the destructive or malevolent element is in constant danger of breaking loose from its checks, and of passing from fictitious to actual inflictions. The play of the canine and the feline kind often degenerates in this fashion; and in childish and youthful amusements it is a perpetual rock ahead.

It is no less dangerous to indulge people in too much ideal gratification of the vindictive sentiments. Tales of revenge against enemies are too apt to cultivate the malevolent propensity. Children, it is true, take up this theme with wonderful alacrity; nevertheless it is a species of pampering supplied to the worst emotions instead of the best.

One other bearing of Irascibility on Education needs to be touched. When disapproval is heightened with Anger, the dread inspired is much greater. The victim anticipates a more severe infliction when the angry passion has been roused; hence the supposition is natural, that anger is an aid to discipline. This, however, needs qualifying. Of course any increase of severity has a known deterrent effect, with whatever drawbacks may attend the excess. But anger is fitful; and, therefore, its co-operation mars discipline by want of measure, and want of consistency; when the fit has passed, the mind often relapses into a mood unfavourable to a proper amount of repression.

The function of anger in discipline may be something very grand, provided the passion can be controlled. There is a fine attitude of indignation against wrong that may be assumed with the best effect. It supposes the most perfect self-command, and is no more excited than seems befitting the occasion. Mankind would not be contented to see the bench of Justice occupied by a calculating machine that turned up a penalty of five pounds, or a month's imprisonment, when certain facts were dropped in at the hopper. A regulated expression of angry feeling is a force in itself. Neither containing fitfulness, nor conducting to excess of infliction, it is the awe-inspiring personation of Justice, and is often sufficient to quell insubordination.

#### *The Emotion of Power.*

The state named the feeling or emotion of Power expresses a first-class motive of the human mind. It is, however, shown,



with great probability, not to be an independent source of emotion. It very often consists of a direct reference to possessions or worldly abundance. In other cases, I cannot doubt that the pleasure of malevolent infliction is an element; the love of domineering, or subjecting other people's wills, would be much less attractive than it is, if malevolent possibilities were wholly left out.

Power in the actual is given by bodily and mental superiority, by wealth, and by offices of command. Hence it can be enjoyed in any high degree only by a few. It is, however, capable of great ideal expansion; we can derive gratification from the contemplation of superior power, and the outlets for this are numerous, including not merely the operations of living beings, but the forces of inanimate nature. For example, the Sublime is an ideal of great might or power.

We have now almost, but not quite, led up to the much-urged educational motive, the gratification of the sense of self-activity in the pupils. This must afterwards undergo a very searching examination. Let us, however, first briefly review another leading class of well marked feelings, those designated by the familiar terms—Self-complacency, Pride, Vanity, Love of Applause. Whether these be simple or compound in their nature, they represent feelings of great intensity, and they are specially invoked in the sphere of education.

#### *The Emotions of Self.*

'Self' is a very wide word. 'Selfish,' 'Self-seeking,' 'Self-love,' might be employed without bringing any new emotions to the front. All the sources of pleasure, and all the exemptions from pain, that have been or might be enumerated, under the Senses and the Emotions, being totalised, could be designated as 'Self' or 'Self-interest'. But connected with the terms Self-esteem, Self-complacency, Pride, Vanity, Love of Praise, there are new varieties of feeling, albeit they are but offshoots from some of those already given. It is not our business to trace the precise derivation of these complex modes, except to aid in estimating their value as a distinct class of motives.

There is an undoubted pleasure in finding in ourselves some of those qualities that, seen in other men, call forth our love, admiration, reverence, or esteem. The names self-complacency, self-gratulation, self-esteem, indicate emotions of no little force. They have a good influence in promoting the attainment of excellence; their defect is ascribable to our enormous self-partiality: for which cause they are usually concealed from the jealous gaze of our fellows. It is only on very special occasions that persuasion is made to operate through these

powerful feelings ; they are too ready to turn round and make demands that cannot be complied with.

A still higher form of self-reflected sentiment is that designated by the Love of Praise and Admiration. We necessarily feel an enhanced delight when our own good opinion of self is echoed and sustained by the expressions of others. This is one of the most stirring influences that man can exert over man. It exists in many gradations, according to our love, regard, or admiration for the persons bestowing it, as well as our dependence upon them, and according to the number joining in the tribute.

The bestowal of praise is an act of justice to real merit, and should take place apart from ulterior considerations. But in rewarding, as in punishing, we cannot help looking beyond the present ; we have in our eye merits that are yet to be achieved. The fame that attends intellectual eminence is an incentive to study, and the educator has this great instrument at his command.

Praise to be effectual and safe has to be carefully apportioned, so as to approve itself to all concerned. As the act of praising does not terminate with the moment, but establishes claims for the future, thoughtless profusion of compliment defeats itself. Praise may operate in the form of warm, kindly expression, and no more ; in which sense it is an offering of affection, and has a value in that character alone. A pleased smile is a moral influence.

Discipline, properly so called, works in the direction of pain ; pleasures are viewed in their painful obverse. The positive value of delights is of consequence as the starting-point wherefrom to count the efficacy of deprivations. The pains opposed to the pleasures of Self-esteem and Praise are among the most powerful weapons in the armoury of the disciplinarian. They are the chief reliance of such as deprecate corporal inflictions. Bentham's elaborate scheme of discipline in the *Chrestomathia* is a manipulation of the motives of Praise and Dispraise, which he would fain make us believe to be all-sufficient.

Of the two divisions of the present class of emotions, namely, Self-Esteem on the one hand, and Desire of Praise on the other, the opposite of the first—Self-reproach, Self-humbling—is very little under foreign influence. To induce people to think meanly of themselves is no easy task ; with the mass of human beings it is well-nigh hopeless. Any success that attends the endeavour is an offshoot from the second member of the class under discussion, namely, Dispraise, Depreciation. There is no mistaking our aim here ; we can make our power felt in this form, whether it has the other effect or not. People live so much on one another's good opinion that the remission tells in an instant ;

from the simple abatement or loss of estimation there is a descent into the depths of disesteem with a result of unspeakable suffering. The efforts that the victim makes to right himself under censure only shows how keenly it is felt. There can be little doubt that on the delicate handling of this instrument must depend the highest refinements of moral control.

*The Emotions of Intellect.*

The pleasurable emotions incident to the exercise of the Intellectual Powers have not the formidable magnitude that we have assigned to the foregoing groups. Indeed, on the occasions when they seem to burst forth with an intense glow, we can discern the presence of emanations from these other great fountains of feeling.

It is an effort of prime importance to trace exhaustively the inducements and allurements to intellectual exertion. What are the intrinsic charms of knowledge, whether in pursuit or in possession? The difficulty of the answer is increased rather than diminished by the flow of fifty years' rhetoric.

Knowledge has such a wide compass, embraces such various ingredients, that until we discriminate the kinds of it, we cannot speak precisely either of its charms or of its absence of charm. Some sorts of knowledge are interesting to every body; some interest only a few. The serious part of the case is that the most valuable kinds of knowledge are often the least interesting.

The important distinction to be drawn here is between Individual or Concrete Knowledge, and General or Abstract Knowledge. As a rule, particulars are interesting as well as easy; generals uninteresting and hard. When particulars are not interesting, it is often from their being overshadowed by generals. When generals are made interesting, it is by a happy reflected influence upon the particulars. It would serve nearly all the purposes of the teacher to know the best means of overcoming the repugnance and the abstruseness of general knowledge.

Waiving for a time the niceties of the abstract idea, and the obstacles in the way of its being readily comprehended, we may here adduce certain motives that co-operate with the teacher's endeavours to impress it. A little attention, however, must first be given to the various kinds of interest that pertain to Individual or particular facts.

Any kind of knowledge, whether particular or more or less general, that is obviously involved in any of the strong feelings or emotions that we have passed in review, is by that very fact interesting. Now a great many kinds of knowledge are implicated with those various feelings. To avoid pains, and obtain pleasures, it is often necessary to know certain things, and we

willingly apply our minds to learn those things ; and the more so, the more evident their bearing upon the gratification of our desires. A vast quantity of information respecting the world, and respecting human beings, is gained in this way ; and it constitutes an important basis of even the highest acquisitions.

The readiness to imbibe this immediately fructifying knowledge is qualified by its being difficult or abstruse ; we often prefer ignorance, even in matters of consequence, to intellectual labour.

All the natural objects that bear upon our subsistence, our wants, our pleasures, our exemptions from pain, are individually interesting to us, and become known in respect of their special efficacy. Our food, and all the means of procuring it, our clothing and shelter, our means of protection, our sense-stimulants, are studied with avidity, and remembered with ease. This department of knowledge, notwithstanding its vital concern, is apt to be considered as grovelling ; it has, however, the recommendation of truth. We do not encourage ourselves in any deceptions in such matters ; and, if we make mistakes, it is owing to the obscurity of the case, rather than to our indifference, or to any motive for perverting the facts. Indeed, this is the department that first supplied to mankind the best criterion of certainty.

There is a different class of objects that appeal, not to the more pressing utilities of subsistence, safety, and comfort, but to the gratifications of the higher senses and the emotions ; the pleasures of touch, sight and hearing ; the social and antisocial emotions. These comprise all the more striking objects of the world :—the sun and celestial sphere, the earth's gay colouring, and sublime vastness ; the innumerable objects, inanimate and animate, that tickle some sense or emotion. In proportion as human beings are set free from the struggle for subsistence, do they lay themselves open to these influences, and so enlarge the sphere of natural knowledge. Individual things become interesting and known from inspiring these feelings. The culminating interest, however, is in living beings, and especially persons of our own species. The intellectual impressions thus left upon us are lively, but not necessarily correct to the facts.

However all this may be, it is to individual things that we must refer the first beginnings of knowledge, the interest and the facility of acquisition. There are great inequalities in this interest and consequent facility ; many individual objects inspire no interest at all in the first instance ; while some of these become interesting afterwards, in consequence of our discovering in them relationships to things of interest.

One notable distinction among the objects of knowledge is the distinction between movement or change, and stillness or

inaction. It is movement that excites us most; still life is rendered interesting by reference to movement. We are aroused and engrossed by all moving things; our attention is turned away from objects at rest to contemplate movements; and we imbibe with great rapidity the impressions of moving objects.

This brief survey of the sphere of Individuality and of the various attractions presented by individuals is preparatory to the consideration of the most arduous part of knowledge—the knowledge of generals or Generality. All the difficulties of the higher knowledge have reference to the generalising process—the seeing of one in many. The arts of the teacher and the expositor are supremely requisite in sweetening the toil of this operation. At the present stage, however, the question is to assign the motives connected with general knowledge as distinct from individual knowledge.

General knowledge, represented by Science, consists in holding together, by a single grasp, whole classes of objects, of facts, of operations. This must, by the very nature of the case, be more severe than holding an individual. To form an idea of one tree that we have repeatedly surveyed at leisure round and round, is about the easiest exertion whether of attention or of memory. To form an idea of ten trees partly agreeing and partly differing among themselves, is manifestly an entirely altered task; it is to exchange comparative simplicity for arduous complexity; yet this is what is needed everywhere in the higher knowledge.

The first emotional effect attendant on the process of generalising facts, and serving to lighten the intellectual burden, is the flash of identity in diversity, an exhilarating charm that has been felt in every age by the searchers after truth. Many of the grandest discoveries in science have consisted, not in bringing to light any new individual fact, but in seeing a likeness between things formerly regarded as wholly unlike. Such was the great discovery of gravitation. The first flash of the recognition of a common power in the motions of the planets and the flight of a projectile on the earth was unutterably splendid; and after a hundred repetitions, the emotional charm is unexhausted.

With the emotion of exhilarating surprise at the discovery of likeness among things seemingly unlike, there is another grateful feeling—the relief from an intellectual burden. This appears at first sight a contradiction to what has been already said respecting the greater laboriousness of general knowledge: but the contrariety is only apparent. To contract an impression of one single individual, after plenty of time given to attend to it, is the easiest supposable mental effort. But such is the multiplicity of things, that we must learn to know, and remember,

vast numbers of individuals; and, we soon feel ourselves overpowered by the never-ending demands upon us. We must know many persons, many places, many houses, many natural objects; and our capability of memory is in danger of exhaustion before we have done. Now comes in, however, the discovery of identities, whereby the work is shortened. If a new individual is exactly the same as the old, we are saved the labour of a new impression; if there is a slight difference, we have to learn that difference and no more. In actual experience, the case is that there are numerous agreements in the world, but accompanied with differences; and while we have the benefit of the agreements, we must take notice of the differences. What makes a general notion difficult is that it represents a large number of objects that, while agreeing in some respects, differ in others. This difficulty is the price that we pay for an enormous saving in intellectual labour.

The overcoming of isolation in the multitude of particulars, by flashes of identity, is the progress of our knowledge in one direction; it is the satisfaction that we express when we say we understand or can account for a thing. Lightning was accounted for when it was identified with the electric spark: besides the exhilarating surprise at the sameness of two facts in their nature so different and remote, men had the farther satisfaction of saying that they learned what lightning is. Thus by discoveries of identity we are enabled to explain the world, to assign the causes of things, to dissipate in part the mysteriousness that everywhere surrounds us.

When a discovery of identification is made among particulars hitherto looked upon as diverse, the interest created is all-sufficient to secure our appreciation. This is the alluring side of generalities. The repugnant aspect of them is seen in the technicalities that are invented to hold and express them—general or abstract designations, diagrams, and formulas. When it is proposed to indoctrinate the mind in these things, by themselves, and at a stage when the condensing and explaining power of the identities is as yet unawakened, the whole machinery seems an uncouth jargon. Hence the attempt to afford relief to the faculties by teaching the dry symbols of Arithmetic and Geometry through the aid of examples in the concrete, and in all the abstract sciences to afford plenty of particulars to illustrate the generalities. This is good so far; but the real interest that overcomes the dryness arises only when we can apply the generalities in tracing identities, in solving difficulties, and in shortening labour; an effect that comes soonest to those that have already some familiarity with the field where the formulas are applicable. The liking for Algebra and for Geometry

proceeds apace when one sees the marvels of curious problems solved, unlikely properties discovered, among numbers and geometrical figures. A certain ease in holding in the memory the abstract symbols, after a moderate application, is enough to prepare us for a positive relish in the pursuit. Such is the case with generalities in all departments. If we can hold on till they bear their fruits in the explanation of things that we have already begun to take notice of, the pursuit is sustained by a genuine and proper scientific interest, whose real groundwork, however, deeply hidden, is the stimulus of agreement among differing particulars, and the lightening of the intellectual labour in comprehending the world. These are the feelings that have to be awakened in the minds of pupils when groaning under the burden of abstractions.

The opposition of the Concrete and the Abstract, while but another way of expressing the opposition of the Particular and the General, brings into greater prominence the highly *composite* or combined character of Individuality. The individual thing is usually a compound of many qualities, each of which has to be abstracted in turn, in rising to general notions; any individual ball has, in addition to its round form, the properties called weight, hardness, colour, and so on. Now this composite nature, by charming several senses at once, gives a greater interest to individuals, and urges us resist that process of decomposition, and separate attention, to which are given, the designations, 'abstraction' and 'analysis'. It is for individuals in all their multiplicity of influence that we contract likings or affections; and according as the charm of sense, and especially the colour sense, is strong in us, we are averse to the classing or generalising operation. A fire is an object of strong individual interest: to rise from this to the general notion of the oxidation of carbon under all varieties of mode, including cases with no intrinsic charm, is to quit with reluctance an agreeable contemplation. The emotions now described—the pleasure of identity, and the lightening of labour—are of avail to counterwork this reluctance.

The second of the two motives that we have coupled together—the easing of intellectual labour—may be viewed in another light. When objects are viewed as operating agents in the economy of the world, as causes or instruments of change, they work by their qualities or powers in separation, and not by their entire individuality or concreteness. An iron bar, or a poker, is an individual concrete thing; but when we come to use it, we put in action its various qualities separately. We may employ it as a weight; in which case its other properties are of no account: we use it as a lever, and bring into play simply its



length and its tenacity. We can put it in motion as a moving power, wherein its inertia is alone taken into account, with perhaps its form. In all these instances, the magnetical and the chemical, and the medicinal properties of iron are unthought of. Now this consideration opens up an important aid to the abstracting process, the analytic separation of properties, as opposed to the mind's fondness for clinging to concrete individuality. When we are working out practical ends, we must follow nature's method of working; and as that is by isolating the separate qualities, we must perform the act of mental isolation, which is to abstract, or consider one power to the neglect of the rest. When we want to put forth heavy pressure, we think of various bodies solely as they can exert weight, however many other ways they may invite or charm our sense. This is to generalise or to form a general notion of weight; and the motive to conceive it, is practical need or necessity.

This motive of practical need at once brings us to the very core of Causation, viewed as a merely speculative notion. The cause of anything is the agent that would bring that thing into being, suppose we were in want of it. The cause of warmth in a room is combustion properly arranged; we use this fact for practical purposes, and we may also use it for satisfying mere curiosity. We enter a warm room; we may desire to know how it has been made warm, and we are satisfied by being told that there has been, or is now somewhere, a fire in communication with it.

Thus it is that in proportion as we come to operate upon the world practically ourselves, and from that proceed to contemplate causation at large, we are driven upon the abstracting and analysing process, so repugnant to one large portion of our feelings. Science finds an opening in our minds at this point, when otherwise we might need the proverbial surgical operation.

These observations will serve to illustrate the working of the emotion named Curiosity, which is justly held to be a great power in teaching. Curiosity expresses the emotions of knowledge viewed as desire; and more especially the desire to surmount an intellectual difficulty once felt. Genuine curiosity belongs to the stage of advanced and correct views of the world.

Much of the curiosity of children, and of others beside children, is a sham article. Frequently it is a mere display of egotism, the delight in giving trouble, in being pandered to and served. Questions are put, not from the desire of rational information, but for the love of excitement. Occasionally, the inquisitiveness of a child provides an opportunity for imparting

a piece of real information ; but far oftener not. By ingeniously circumventing a scientific fact, one not too high for a child's comprehension, we may awaken curiosity and succeed in impressing the fact. Try a child to lift a heavy weight first by the direct pull, and then by a lever or a set of pulleys, and probably you will excite some surprise and wonder, with a desire to know something farther about the instrumentality. But one fatal defect of the childish mind is the ascendancy of the personal or anthropomorphic conception of cause. This no doubt is favourable to the theological explanation of the world, but wholly unsuited to physical science. A child, if it had any curiosity at all, would like to know what makes the grass grow, the rain fall, the wind howl, and generally all things that are occasional and exceptional ; an indifference being contracted towards what is familiar, constant, and regular. When anything goes wrong, the child has the wish to set it right, and is anxious to know what will answer the purpose ; this is the inlet of practice, and, by this, correct knowledge may find its way to the mind, provided the power of comprehension is sufficiently matured. Still the radical obstacle remains—the impossibility of approaching science at random, or taking it in any order ; we must begin at the proper beginning, and we may not always contrive to tickle the curiosity at the exact stage of the pupil's understanding. Every teacher knows or should know the little arts of giving a touch of wonder and mystery to a fact before the explanation is given ; all which is found to tell in the regular march of exposition, but would be lost labour in any other course.

The very young, those that we are working upon by gentle allurements, are not properly competent to learn the 'how' or 'wherefore' of any important natural fact ; they cannot even be made to desire the thing in the proper way. They are open chiefly to the charm of sense novelty and variety, which together with accidental charm or liking impresses the pictorial or concrete aspects of the world, whether quiescent or changing, the last being the most powerful. They farther are capable of understanding the more palpable conditions of many changes, without penetrating to ultimate causes. They learn that to light a fire there must be fuel and a light applied ; that the growth of vegetables needs planting or sowing, together with rain and sunshine through a summer season. The empirical knowledge of the world that preceded science is still the knowledge that the child passes through in the way to science ; and all this may be guided so as to prepare for the future scientific revelations. In other respects, the so-called curiosity of children is chiefly valuable as yielding ludicrous situations for our comic literature.

A. BAIN.

### III.—THE ORIGIN OF THE SUBLIME.

THERE is perhaps no feeling in our nature more strangely compounded and more indefinitely singular than that which we call the Sense of the Sublime. It is not exactly pleasurable, and yet it certainly is not painful. It has many elements in common with fear, many in common with reverence, and not a few in common with beauty. Yet it stands apart from all three, in an isolated corner of its own, and it has seldom received any fitting attention at the hands of scientific psychologists. Most writers have classed it roughly amongst the æsthetic feelings, but hardly, I think, with sufficient reason. Perhaps an analysis of its origin in the human mind will lead us to a truer notion of its nature and functions.

If we go back to the very first germ from which the feeling of the Sublime has been developed, we must seek it lower down in the animal scale than the limits of humanity itself. The desire to produce an *effect* is one which man shares with many of the higher vertebrates. If we watch monkeys at play, we shall notice how keenly they enjoy the power of startling or surprising their fellows. They love to pull one another's ears unexpectedly, to jump on a sudden from a height, or to make a smaller comrade squeak aloud with pain. Dogs are equally anxious to obtain notice by jumping over a stick, or exhibiting their skill in tricks. Many animals evidently delight in the loudness of their own roar or cry, while still more strut proudly about in the triumph of victory over their rivals. In many ways birds and mammals show us that they understand and appreciate the simpler pleasures of power and display. And as all power is an index of success in the struggle for life, this feeling is clearly conducive to the preservation of individuals or races in whom it exists, and consequently is continually strengthened under the selective action of survival of the fittest.

When we come to the younger members of our own species, we find similar feelings more developed, and more highly evolved. Babies in arms will crow with delight at knocking down a tea-cup, or making a loud noise. Schoolboys enjoy nothing so much as a crash or bang—they are perfectly happy with an ounce of gunpowder or half-a-dozen squibs; and they delight in rolling big stones down hillsides, or driving horses and cows full-pelt across a meadow. An exhibition of *what they can do* is their greatest pleasure: and this feeling, again, is clearly one which contributes greatly to the success in life of those races which possess it.

Hence arise two or three important impulses, which pave the way for the sense of Sublimity. One very conspicuous method

of proving one's prowess is by the performance of deeds requiring strength and skill. Every savage is proud of his warlike achievements, and is urged on by the admiration of his fellows. This admiration itself has a double origin: it is partly selfish, depending upon the fact that a strong and brave man is a shield and buckler to every member of his tribe; and it is partly sympathetic, in an incipient degree, depending upon the consciousness of self-approval for similar qualities in one's own case. The earliest embryo of the Sublime is doubtless to be sought in this savage appreciation for the brave warrior of one's tribe. The man whose strong arm comes in to save one from the club of one's foe, deserves lasting gratitude and admiration. The hero who leads the attack against the enemy, and successfully carries away cattle and wives, is an object of respectful awe. The Hector who alone wards off from his Troy a myriad of Myrmidons, demands the obeisance of cowards and women.

Probably this is the only form of the Sublime which is reached by the lowest types of humanity. We can hardly imagine the early races, who are still represented by Veddahs and Andamanese, admiring the vault of heaven or the foaming cataract, the lofty mountain or the angry sea. Yet even in this primitive germ, we see the main traits which mark the feeling of Sublimity in its highest flights. It is a mixture of love and dread. The savage knows the value to himself and his fellows of the strong warrior, and treats him accordingly with genuine respect; but he knows also how dangerous is his anger, and regards him consequently with awe and reverence. His feeling is very different from that with which he thinks of his enemy—there, hatred and fear are unqualified by that respect which is begotten from the hope of aid; but it is also very different from that with which a civilised man thinks of his friend—pure affection, unmixed with fear. Perhaps the nearest emotion within the range of our own experience is that which a child entertains towards his parents. In a crowd of strangers he clings to them as known friends, but he never forgets that they are also the dispensers of punishment, and keepers of the whip.

There are few societies of men in which the strongest has not come in time to occupy the post of chief or king. As this position strengthens and hardens down by custom, the feeling of awe and respect deepens. The absolute monarch, with power of life and death over every subject, is a natural object of dread. Yet he is also the leader of the host, the dispenser of favours, the divider of the spoil. If implicit obedience to his will is demanded of all, yet that obedience, when willingly granted, generally secures benefits for the subject. And as the tribe profits by its discipline and its military organisation, there will

naturally grow up in all successful predatory tribes, an intense feeling of loyalty and reverence for the king—a loyalty culminating in that of the Fijians, who consider it an honour to become food for their chiefs. The second stage in the evolution of the Sublime is found in the veneration for the savage king.

But when the king dies, he does not utterly pass away.\* A new king rises in his place, who was once his subject, and who, dreading him during his lifetime, now still more dreads and reverences his surviving ghost or double. The people too, who fear the new king, must still more fear the ghost which the king himself is afraid to displease. Yet their feeling is not wholly one of terror. The ghosts of enemies are indeed objects of unmitigated dread; but the king of their own people, though terrible as all ghosts are, nevertheless aids them in the fight, and drives away the evil spirits of the hostile tribe. He can be propitiated with gifts, and he is still the powerful if somewhat uncertain friend of his former subjects. As in life he was harsh yet invaluable, so in the spirit-world he is easily offended yet placable to his tribesmen, and their steadfast ally against all enemies, earthly or ghostly. And inasmuch as this feeling, too—by binding together the tribe, and adding a supernatural element of subordination to the natural one of kingship—increases its organisation, and strengthens its hands against aggressors, it, like the former ones, is perpetually developed and deepened through the natural selection of those societies which most display it. The third step in the evolution of the Sublime is the mixed feeling of fear and hope with which savages regard the earliest god, the ghost of their deified chieftain.

By this time the sense of Sublimity has reached a very considerable distinctness. It is true that it still confines itself to human or quasi-human attributes, and that the infinitely wider Sublimity of nature is as yet all but unperceived. We shall see hereafter how that conception is gradually developed through the anthropomorphic mode of envisaging the inanimate world which springs from the extension of the ghost-theory. For the present we may confine our attention to the expression of Sublimity at this, its third, stage. The tales which savages tell, and the songs which they sing around their evening fire, all bear upon the mighty deeds of kings, heroes, and gods—the three being almost indistinguishable in the earliest types. The South Pacific myths which Mr. Gill has collected and published, or the New Zealand stories narrated by Sir George Grey, show us a conception of the Sublime which never rises above this simple

\*I had better here acknowledge, once for all, my obligations to Mr. Herbert Spencer's *Principles of Sociology*, on which I base the whole of my theory, so far as regards the comparative science of religions.

level. These races have no great architectural piles which might aid them in extending the feeling to inanimate masses, nor have they progressed to the anthropomorphic conception of natural forces, which enables other stocks to embrace the thunder and the storm, the seething ocean and the driving cloud, within the limits of their sense of Sublimity. Among all the embryonic literature of tribes in the stage of theology here contemplated which has yet been rendered accessible to European readers, I can find scarcely a touch that reveals any admiration or awe for the might of the external universe. The strength of men, the terrible deeds of gods, the ghosts of men, are held up to the wonder and veneration of every hearer; but not a trace can be found of any reverential feeling for the grandeur and majesty of the mighty world around them.\*

A little higher up in the scale of development, however, the spiritual agency widens its sphere of operations. Without inquiring into the vexed question of *how* the ghost or deity comes to be identified with the moving power of inanimate nature, it will be sufficient for our present purpose if we recognise the fact that he *does* come to be so identified. The howling of the wind is the voice of a god; the rumbling of the thunder is his angry roar; the tempest on the ocean is stirred up by his trident; he dwells in the flaming volcano, and his blast drives aloft the molten lava; he lies under the roots of mountains, and when he turns upon his side an earthquake rends their bases. If the gods were only this, however, they would be merely an object of unmixed dread and horror; the feeling of Sublimity would never reach any higher development, and hatred or abject fear would take its place. But the gods have also their kindly side as before. It is they who send the rain and the breeze; it is they who grant plentiful harvests and abundant flocks; it is they who are the dispensers and distributors of all good things. The Roman Ceres fills the garner, and Dionysus swells the grapes of Hellas. Some of them are identified with the greater natural agents whose beneficence is obvious and undoubted. One is the warm sun who shines on the fields and gives the pleasant light of day. Another is the bright and changeful moon who comes to the aid of man in the darkness of night. A third is the clear open sky above, whence fall the quickening showers that nourish the crops. Every day yields abundant proof alike of their might and their good-will. Zeus may indeed collect the angry thunder clouds and blast the mountain-top with his fiery dart; but he oftener smiles benignly on his children, with that

\* Even where a tinge of the Sublime in nature is cast upon the story by a passing expression, we must guard against the possible danger of reading our own ideas into the simple and positive language of the savage.

serene brow which well befits the father of gods and men. Awe for their power mingles strangely with hope of their favour in the minds of their votaries. Mighty and strong and irresistible they are; yet they may be turned aside by prayer and propitiated by the savour of perfect lambs and bulls.

How enormous is the amplification which this anthropomorphic envisagement of nature gives to the sphere of the Sublime we can see at a glance. The savage who has only just progressed beyond the first stage of the ghost-theory can hardly stand awe-struck before the majesty of nature. The thunder is doubtless very terrible to him, and the cold wind very unpleasant; while the warmth of the sun and the coolness of the breeze are agreeable and grateful to his senses: but as he does not connect them with any underlying power, they seem to him no more than so much dead fact, without complex emotional implications. As soon, however, as he learns to see in these manifestations the acts of some occult and invisible being, he cannot fail to compare their vastness and might with the smallness and weakness of his own powers. His idea may still be a childish and an unworthy one; he may still fancy that these unseen spirits can be deceived and cajoled by the most transparent trickery; he may still hope to outwit them through craft or to frighten them with threats; but nevertheless he must recognise them as something vastly greater than mere human kings; he must take the decisive step which definitely marks off the god from the simple ghost.

If we examine such a monument of the differentiated theological stage as we possess in the Homeric ballads, we shall see how deep a hold the sense of Sublimity has there obtained over the awakening intelligence of men, no longer barbaric, but far on their way to an advanced culture. But we shall also find these four first developments of the feeling—awe towards the hero, towards the king, towards the gods, towards the divine motive power in nature—filling the whole field to the exclusion of all those more complex and elevated factors which enter into the composition of the Sublime in its highest forms. The wrath of Achilles, the waving plumes of Hector; the strong warriors of yore, amongst whom Nestor fought; the heroes of elder days, Bellerophon, Tydeus, and the might of Heracles; wide-ruling Agamemnon, Priam, and Memnon, and all the Zeus-nurtured kings; the gods of Olympus, of Hades, and of Ocean; Ares stalking before the hosts of men; Phœbus Apollo, angry in heart; Zeus assailed by the Titans who pile Pelion upon Ossa, or calling to his aid Briareus of the hundred hands;—in all these we see the feeling of awe and reverence for the strong man, the chief, the king, the deified hero, and the god whose human



origin is forgotten in the dimness of past centuries. But if we look for any sense of admiration towards the great moving powers of nature, we shall find it only under an anthropomorphic guise. Poseidon the earth-shaker rouses the white billows on the limitless deep: Apollo the far-darter drives his golden car through the divine æther: Zeus the loud-thunderer collects the black clouds and darts his angry bolts upon the perjurer's head. Yet amid all this wealth of anthropinistic sublimity—a wealth which perhaps no other literature can equal in its own way—we miss any feeling for the sublime of nature in repose, any sense of grandeur in sea and sky and mountain, apart from the great shadowy beings who dwell within them and gave life and motion to their mighty masses.

And here again we see how intimate is the connexion between the feeling of the Sublime and the sentiment of subordination. The Homeric Achæan is after his kind a law-loving man. He feels and recognises the necessity for union under a lawful chief. The rule of many is not good; let one alone be king whom Zeus appoints. The king it is who guards the divine laws, derived from Zeus. It is folly to disobey the word of one who reigns over many islands and all Argos; for a king is much the stronger when he is wroth with a man of low degree. Yet the king's sternness does not disguise the fact of his usefulness both as warrior and as leader. Nor is his power entirely his own; he holds it on sufferance of Zeus, who will not allow his divine laws to be lightly set aside. The gods themselves, too, are often harsh, yet they are kindly in their softer moods. Angry Phœbus sends a pestilence, but he may be propitiated with hecatombs, and with a lustration whose sanitary effects must obviously be useful in checking the arrows of the god. Zeus watches over the faith of treaties, and punishes the perjured head. Artemis avenges the loss of chastity. Demeter puts forth the green corn; Athene gives the olive; Dionysus sheds his wine into the vats. With the might of Ares men conquer in battle; by the counsel of Pallas they speak words of wisdom in the Agora. In one way or another every one of these beliefs gives some point of superiority to its votaries, by hedging round with sanctity an ethical observance, by promoting a useful social custom, or by giving confidence in war or debate to the warrior and the orator. And with every such advance the feeling of Sublimity must grow more and more definite, more and more structurally innate, in the minds of each new generation amongst the successful races of mankind.

If we step aside for a moment from our main line of exposition to compare the monarchical Achæan ballads with the later democratic Athenian drama, we shall see how the change of

political circumstances influenced the sense of the Sublime. The Attic tragedians show us a measured and self-respecting religious feeling, which pays all due honour to the gods. But the reverence of the king has passed away. We do indeed see traces of the legendary monarchical feeling, introduced as historical colouring; but the democratic sympathies of the writers crop out at every turn. Agamemnon treading on the carpet, Ajax mad, Xerxes and Atossa infatuate and defeated, the ragged heroes of Euripides, the ribald irreverence of Aristophanes, are a few indications of the change. The heroes speak in noble and austere language, but it is the language of moral suasion, of deliberate counsel, of thoughtful resolve. When Ajax lies unburied, when Philoctetes is cajoled into the power of his enemy, when Antigone is dragged away to slaughter, when Polyxena is torn from her mother's arms, all the sympathies of the audience are with the oppressed against the tyrants. But when we turn to divine matters, the spirit of subordination is once more apparent. Prometheus welters on the snowy rocks of Caucasus, a rebel against the irresistible might of Zeus; Orestes is driven madly over the stage by the awful figures of the Eumenides, until he clears himself of blood-guiltiness before the solemn tribunal of Phœbus; Pentheus is torn piecemeal by the Bacchantes for daring to interdict the holy orgies of Dionysus. Even if we compare the tragedians among themselves we see somewhat the same differences in the earlier and the later. Æschylus the religious conservative is full of awe for gods and heroes, of respect for time-honoured institutions, of modified veneration for the great monarchs of early legend; but Euripides the philosophical radical loves to exhibit the folly and the passions of kings, and has little reverence even for the great gods themselves. Occasionally, too, in the works of the glorious Athenian period we find tinges of a higher and grander Sublime; as in that marvellous lyrical spectacle, the Persæ, where the poet impresses upon his audience a full appreciation of that noble sight, a free people banded together under their own chosen leaders, fighting for liberty and culture against the aggressive hordes of a barbaric despot. "We too have a master," says the free Hellene to the Oriental tyrant, "whom we serve far better than your slaves serve you, and his name is Law".

But we must return from this digression to follow out the development of the Sublime in its regular historical course. There is another element of sublimity which has arisen earlier, perhaps, than those already considered, but which introduces a somewhat different original factor, and so has been postponed to the present place. I mean the element of material *bigness* in human or natural products. To put the difference briefly we

may say that the elements we have so far examined depend for their impression on *force* ; while the present one depends on *size*.

Originally, we saw, the notion of the Sublime took its beginning from the effects which a man could produce, and especially from the strength or agility of the strongest. Thence it progressed to the power of kings, of ghosts, of gods, and of natural agents anthropomorphically conceived. In all these cases it is evident that the main idea is one of superior force, exercised in a manner not wholly adverse, or rather partially beneficent, to the individual, the tribe, and the race of men generally. But how did the sense of Sublimity come to entwine itself around the physically *big*, viewed in repose ? I think this element of the Sublime is itself ultimately resolvable into the same admiration for superior force, always, of course, in alliance with the subordinative sentiment, governmental or religious. Let us see how.

Among the commonest instances of that love for the production of an effect, which we took as the psychological starting-point of our inquiry, is the erection of a conspicuous mass of matter. Children make sand-heaps and big snow-balls, or build card-houses and castles of bricks. Savages pile barrows over their dead, raise huge cairns on mountain tops, and lift massive stones into cromlechs, avenues, and monolithic circles. In all these acts, they can gratify the natural love of effect, the desire to do something which shall produce a striking and noticeable change in the surrounding scene. Especially do primitive men enjoy the power which they thus possess of giving a permanence to the form which they impress on large masses of matter. But when we reach the developed kingly stage, we find this impulse taking a fresh start in the direction of vicarious effort. A great king shows his power by the number and strength of his subjects, the implicit obedience of his vast armies, the hundreds of captured cities, the thousands of slaughtered or mutilated foes ; but he can also show it by building for himself or his ancestors, palaces, temples, tombs, and colossal statues. Hence we find that almost all great despots erect huge piles of architecture to demonstrate their might, and strike wholesome awe into the breasts of their subjects. Whether we examine the Pyramids, the Sphinx, the Memnon, and the temples of Karnac, or turn to the winged bulls and sculptured courtyards of Nineveh, we shall notice alike that architecture is devoted to the aggrandisement of the king and the due subordination of the subject. The lesson preached in every bas-relief and every painting is the same : obey the great king who is the taker of cities and the ruler of peoples. If from the palaces and tombs

we turn to the temples, we find the religious tie added to the governmental. A huge hall, with row after row of mighty granite columns, and a colossal figure of the tutelary god, strikes deep reverence into the mind of the beholder. In whatever part of the world we look, we see the same story repeated. From the caves and topes of India to the pyramids and temples of Mexico, we see architecture everywhere allied with despotism and the religious subordination. Even in republican communities, like Athens and Rome, the sacred use survives, and the home of Athene on the Acropolis or of Jupiter on the Capitol peers down with lordly disdain upon the lesser roofs of men and citizens.

Indeed, it would be interesting, did space permit, to point out how very close and almost invariable is the connexion here hinted. It would be necessary then to show how imperial Rome, with her Domus Aurea, her Colosseum, her Baths, her Triumphal Arches, her Basilicas, followed in the wake of ancient Memphis and Babylon: how, in later times, the Medici adorned Florence, and then Rome: how Louis XIV. had his Versailles, and Napoleon III. his new Paris. We might pass over to the mosques with which the Mughal dynasty adorned the plain of Delhi, and to the palaces and pagodas of Peking. And we might glance at our own European Cathedrals, and trace the changed aspect of governmental machinery in the Parliament Houses of Westminster, the Capitol at Washington, or the disproportionate and costly mass of Gothic edifices which the Canadians are raising for public offices at Ottawa. But such a survey would detain us too long, and the instances thus rapidly cited will serve to suggest to the mind of the reader how large a share, in the development of the political and ecclesiastical restraining system, has been borne by mere mechanical vastness in the machinery employed.

Now, with the growth of such massive and laborious piles must come the appreciation and admiration for their size and structure. The boy when he has rolled his big snowball, the savage when he has lifted on end his monstrous monolith, the despot when he has heaped his colossal pyramid, each stands by to admire his work, and feels his heart swell with pride at the effect of his personal or vicarious labours. The boy's comrades, the savage's fellows, will join him in a sympathetic appreciation; while the subjects of our primitive despot will see another mark of that god-like power and infinite superiority which is daily impressed upon them in ten thousand ways. Whoever looks upon their piles, even to this day, cannot fail to think upon the thousands of workmen, the years of toil, employed in raising those solid blocks of granite, one above another, to so lofty a

height. And on those who lived amongst them, and saw with their own eyes, year after year, the Great Pyramid rising slowly towards the sky, some vague feeling of awe for the visible symbol of majesty could not fail to be impressed. We can hardly doubt, I think, that the admiration for what is vast in the outer world must be ultimately traced back to the admiration for what is vast in the works of man: just as we have already seen that the forces of inanimate nature only excited wonder and reverence when they came to be figured in terms of human force. Children admire a big building or statue long before they have developed the feeling of admiration for a mountain or a waterfall.

It is hardly necessary to add that the skill, the mechanical power, and the organisation, evolved during the gradual growth of such works, themselves form useful aids to the race in the struggle with other races, and ultimately beget that higher civilisation which enables its possessors to compete on terms of immense superiority with every inferior type of humanity.

As yet, however, we have not seen how the sublimity of nature-in-repose first comes to be appreciated. In modern times, the most obvious instances of the Sublime which strike us are those of ice-clad mountains, tottering crags, deep ravines, cataracts like Niagara, the broad expanse of ocean, and the starry vault of heaven. Yet not one of these seems to produce much effect upon men up to a very high pitch of culture. The Greeks and Romans, even, were little impressed by them. The Alps they regarded mainly in the utilitarian light of so much useless ice and snow, placed on the highroad to Gaul and Germany. Mountains are to them nothing more than mere barriers; their epithets are mostly *shadeless, barren, inhospitable, chilly*. The ancient cultivated nations admired much the picturesque in scenery or in man's handiwork, and the grand in human nature or divine beings: but they cared little for mere vastness in the external world. There is a certain mode of reviewing our own feelings on the subject which, I think, will show us the reason for this difference.

Very few people feel any thrill of Sublimity as they look over a very wide and flat plain, a level expanse of sand, or a calm and unbroken stretch of sea. But if in the midst of the plain a few bold rocks rise threateningly on high, their admiration is at once arrested. The position of the rocks inevitably suggests some vague notion that they were *put there*; and in this suggestion we get a point of comparison with human force: while the flat plain seems, so to speak, as though it were *naturally there*, and does not at all vividly suggest the notion of any human or supernatural agency at work. So, too, with the sea:

while it remains calm, we see in it only a beautiful field of soft blue colour; but when a tempest raises its waves, we picture it to ourselves as angry, as violent, as a living thing; we compare its roar, its sweep, its tremendous energy, with the puniness of our own arms, of our drifting ships, and of our beaten breakwaters. Again, in proportion as the mass of a mountain is great, and its sides abrupt, we think more and more of the gigantic power which would be required to pile it to such a height. But we do not *see* the power at work. If, however, we watch a volcano in eruption, the feeling of Sublimity is enormously increased. In fact, wherever there is an actual display of energy, the sense of Sublimity is most strongly aroused: where the energy is only suggested, the emotion is comparatively vague: and where energy does not enter at all into the idea, Sublimity is not suggested by the mere bigness of an external object. We require some hint which will assimilate the object to a human product before we can find in it a germ of the Sublime.

Now to all modern minds the notion of the world as created, as made by God, has been familiar from childhood. The idea of force exerted in raising every mountain, in planing every crag, in scooping out every ravine, is immediately suggested to our minds together with the objects themselves. I do not say that we all accept the direct theory of creation in its crude form: but even those of us who have substituted the scientific conception of natural causes for the older belief in personal divine intervention, still carry about with us predispositions of thought which were contracted under the earlier creed. Indeed, we see the energies involved even more clearly than do those persons who still envisage them in the vague metaphors of religion. When we stand in the riven gorge of Pfäfers or the water-worn ravine of the Niagara, we can realise the endless working of that slowly encroaching power with far greater vividness than the unscientific thinker can give to his verbal picture of rocks rent asunder by the finger of God. Yet the old school and the new school of moderns are alike in this, that they see indications of moving energy, natural or supernatural, in every conspicuous mass of the material universe. The ancient cultivated races, on the other hand, seldom or never inquired how the universe came to be there or assumed its existing form; they accepted it simply as given, or if they made any conjecture on the subject, they concluded that it had been there as it was, from eternity.\* We of to-day, whether we see in a mountain a piece

\* Such exceptional cases as that of Lucretius—an embryo Laplace or Darwin—will be noticed hereafter. For the present it will be sufficient to observe that such persons had a feeling of the Sublime infinitely raised above the average level of their time and race.

of God's own handiwork or a product of enormous eruptive forces, at any rate think of it as *raised*: the Greek or the Roman simply thought of it as *lying*. And if we go back to the origin of this feeling on our part, I believe we must seek it in the Hebrew cosmogony. For when we search for any sense of Sublimity in the old world at all comparable to that which is common in the new, we find it only in the wonderful prelude of Genesis, the mystical visions of Ezekiel, and the thundering periods of Job.

The mere savage never asks who made the world. If you put the question to him, he thinks it childish and absurd:—the world was always there of course. Even to the Greek and the Roman, the gods were a part of the world:—they sprang from it, they moved in it, but they did not make it. The universe was as objective to Zeus as to his worshipper: it lay quite outside the sphere of divinity. The gods wrought on it as man wrought on it: it was their material, and they gave it sometimes a new shape. But that short declaration, "In the beginning God created the heaven and the earth," contained the germ of a whole new development for the sense of the Sublime. Even Longinus noticed the wonderful majesty of the primæval fiat—"Let there be light, and there was light". Indeed, monotheism in every way offers immense opportunities for the evolution of the Sublime. By substituting for the many opposing and mutually-limiting gods of the polytheist a single supreme and infinite God, it concentrates on one point all the veneration and love of his worshippers. And when this God comes to be conceived as the maker and architect of the universe, the sense of his irresistible might becomes overwhelming. Nature is thought of as his outer manifestation. The heavens declare the glory of God, and the firmament sheweth His handiwork. They are the work of His fingers: the moon and the stars He has ordained. The earth is the Lord's and the fulness thereof, the world and they that dwell therein. By the word of the Lord were the heavens made, and all the host of them by the breath of His mouth. When He speaks out of the whirlwind to Job, man learns his own weakness and folly, by the measure of his maker. "Where wast thou when I laid the foundations of the earth? Who hath laid the measures thereof, if thou knowest?" Behemoth and Leviathan testify to His might. The mountains skip before Him like a calf; He rideth upon the heavens, and the earth is His footstool, the hill of God is as the hill of Bashan, an high hill as the hill of Bashan. There is more true sublimity in half a dozen Psalms or four chapters of Job than in all the odes of Pindar and all the tragedies of Æschylus.

But here again, as in every other case, we find an under-



current of love and trustfulness, half hidden beneath the sense of reverence. The God who created heaven and earth is emphatically the God of Israel. He has made an everlasting covenant with His chosen people. He is not a man that He should lie, and He is of purer eyes than to behold iniquity. But His mercy endureth forever; He hath not despised nor abhorred the affliction of the afflicted, neither hath He hid His face from him. "The Lord is my shepherd," the poet can sing; "I shall not want. He maketh me to lie down in green pastures; He leadeth me beside the still waters." "I, even I," says Jehovah, by the mouth of His prophet, "am He that comforteth you: who art thou, that thou shouldst be afraid of a man that shall die, and of the son of man which shall be made as grass, and forgettest the Lord thy maker, that hath stretched forth the heavens, and laid the foundations of the earth?" In every line of the Hebrew poetry and every page of the Hebrew chronicles we see this overwhelming conception of the might and majesty, the loving care and protection, of the God of Israel.

It is needless to point out how this feeling, too, was an element of success in the battle of races. The monotheistic creeds have spread irresistibly from Hindustan to California, and have proved by incontestable results their ability to hold their own in conflict with every inferior faith. Nowhere can the heathen oppose a solid front to the aggressive hosts of Christianity and Islam.

The modern world, nursed upon the grand utterances of the Hebrew bards, has imbibed the sense of the Sublime almost with its mother's milk—nay, one may even say, before it. For every one of us is now born into the world with a hereditary capacity for that mingled feeling of awe and security which constitutes the essence of the Sublime. The feeling is not entirely pleasurable; it is partly ethical and subordinative. It passes very readily into fear and distress, as in the case of a thunderstorm, a tempest at sea, or a volcanic eruption. Even such a terrific gorge as the *Via Mala*, or such a cataract as the *St. Lawrence rapids*, is rather frightening than impressive. Cliffs and crags give us a more agreeable sensation viewed from a slight distance than when we stand just beneath their threatening mass. But they all yield us a certain sympathetic pleasure as evidences of power, natural or divine. The stock reflection of moralists on all such subjects is the puniness of man and the power of his great Creator. I find in a little guide-book to *Niagara* eight pieces of verse by different hands, every one of which turns as a pivot upon the self-same idea. The religion which for twenty centuries has taught us to see everywhere some token of the greatness and goodness of God, is now

engrained in our nervous systems, and produces its effects unconsciously in our everyday life.

A last question remains. Will the sense of Sublimity decrease as the notion of fixed law supersedes that of capricious divine interposition? There are good reasons for thinking that it will *not*.

The progress of scientific thought has opened before us a field for the exercise of our faculty of Sublimity almost as new and extensive as that which was laid open by the monotheistic creed and the doctrine of creation. The microscope has revealed to us the marvellous intricacy of coral and shell and zoophyte: it has shown us the feathery scales on the butterfly's wing, and the countless facets of the insect's eye: it has made visible the minute structure of every animal tissue, and the complicated architecture of every vegetable fibre. In each of these the man of science saw fresh proofs of design and power, which have slowly led the way towards a new conception of Sublimity. Meanwhile, the telescope enlarged our view from the solid firmament of the Psalmists to the boundless realms of space which the eye of a Newton or a Herschel sees peopled with innumerable suns, and countless systems of eddying worlds. Geology taught us to look back, not over a few thousand measurable years, but over immeasurable æons of historic time, stretching back into a vast and unknown past. And now we have learned to picture our earth as a speck of matter floating in an ocean of space, and our era as a second of time marked on the infinite dial of eternity. Through a boundless void which our miles cannot measure, through an endless period which our centuries cannot gauge, we see the workings of that infinite, absolute, unknowable Entity, which manifests itself eternally in the heavens and the earth and the soul of man. We spell out its operations in the fiery sea from which sun and planet drifted towards their appointed centres; in the slow growth of living forms upon their cooling crust; in the myriads of beautiful beings which people a drop of water; in the noble aspirations and earnest moral yearnings of the human race. Surely our idea of the ultimate Being has not been lowered or degraded by this vast extension of our knowledge and our vision!

But perhaps it may be objected that we have here only the awful side of the Sublime and not its comforting or protecting aspect. Perhaps to a certain extent this is true: and indeed, every step in the evolution of the feeling has made the centre round which it gathered more awful because more absolutely and indefinitely powerful. But at the same time, each step has brought with it a limitation in the capriciousness, the favouritism, the uncertain demeanour of the being—man, king, ghost,

or god—towards whom the sentiment was principally directed. And in this last substitution of a Power working through knowable laws, for a Power working by inscrutable volitions, we get a further advance in the same direction. There is an element of pleasure in the certainty and security of Law. No comet now brings war or pestilence; no portents and prodigies disturb our peace and demand propitiatory sacrifices. We rest on the safe ground of known causes: and when danger threatens we can meet it by our own manful endeavours, not by slavish submission. Pestilence can be warded off by sanitary care; famine by wise precaution; war by prudent and moral self-restraint. The great Power which underlies the universe will not repent of acts done or wreak capricious vengeance on offenders. We can go on fearlessly upon our path, obedient to the great natural laws without us, and the ethical principle which is developing within us; and we need tremble at no bugbear of superstition, as we pursue our onward and upward course, towards fuller knowledge and purer life.

And here we may turn back to notice how the truest conception of the Sublime has always been that of those men who were most in advance of their age. The poet who knew that the best of omens was to fight for one's fatherland—the prophet who knew that God would have righteousness and not burnt-offerings—these are they who feel the deepest thrill of the Sublime, and speak it out clearest for our hearing to this day. And among the solid matter-of-fact Roman people, the solitary singer whose words still ring in our ears for their sublimity was the one who knew the reasons of things and trampled under foot fears and inexorable doom and greedy Acheron's din. He it was, who, like some Laplace born out of due season, beheld the atoms drifting through the mighty void, and discerned with his eyes the beginning of things. And vaguely as he saw these truths, yet he felt among the blind and ignorant multitude like one who sitting safe upon some jutting peak beholds the tempest-driven mariners out at sea tossed by the waves and vainly stretching their hands to their painted gods. As Lucretius felt the beauty and sublimity of the Græco-Roman myths not less but more than other men, so may we well suspect that science will give us in the future not a lower but a higher appreciation of the Sublime, throughout that immeasurable universe which she is daily opening more and more clearly to our dazzled and astonished gaze.

Yet from beginning to end we see that the sense of Sublimity is everywhere allied with the regulative principle of subordination. The laws of nature rule us now as firmly and inexorably as the savage chieftain rules his naked subjects. And by

obeying and conforming to those laws we can secure ourselves life and happiness; while by opposing and transgressing their teaching we have our punishment in death and misery. The true place of the Sublime in the scheme of our faculties is next to the regulative and directive ethical feelings: though it forms a connecting link between these and the æsthetic sense in its proper acceptation.

GRANT ALLEN.

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#### IV.—INTUITION AND INFERENCE.

##### I.—INTUITION.

THE meaning of the term Intuition and the scope and limits of the mental capabilities represented thereby have long been unsettled in philosophical speculation. Of so much importance has the name become that its adjective characterises a distinct (or supposed distinct) school in philosophy, whose members claim a proper extension of the denomination beyond what is allowed by their antagonists. With almost all Intuitionists the name Intuition covers much more than their opponents allow that it can include; in what respects they make such an extension we shall presently see. The applications of the term Inference have not been subject to so much doubt and uncertainty as have those of Intuition, though, indeed, it should be said that the fundamental facts of inferential knowledge are not yet so completely laid bare as to leave nothing further for the explorer to do. Intuition and Inference usually are contrasted with each other as being two separate and antithetical modes of mental experience. Intuition is generally referred to as primary and fundamental, while Inference is accounted secondary and super-structive. But as far as one has been made dependent upon the other, mankind has been disposed to measure Inference by Intuition rather than Intuition by Inference. Intuition has been regarded as a source of or method of obtaining transcendental, pure, and trustworthy knowledge; while Inference has been esteemed to yield only experiential, mixed, and uncertain information. Intuition is thus held to be the more important, partly because the knowledge it gives is considered to be primary and partly because that knowledge is deemed more clear and certain. Another and very potent reason for the *empressement* with which Intuition has been treated lies in the fact that men have been alive to the convenience of possessing a standard superior to and independent of Inference, to which they

might appeal when bias or interest called for the establishment of a point and inferential processes failed to yield the desired results. Deeming it a matter of importance, therefore, to ascertain, if possible, the true significations of these words and to analyse the mental acts, states, or products for which they stand, we will devote some pages to such a task.

Upon one thing in regard to Intuition the philosophers have been almost universally agreed, namely, that we do cognise by Intuition the phenomena of the external world and the phenomena of our own minds. Whether in seeing a tree we cognise anything more than the phenomenal qualities, and, if we do, whether we cognise intuitively or inferentially, are questions in regard to which there has been dispute, and which are not altogether easy of settlement; but as to the phenomena there is no question and can be none, save in the misunderstandings of people who, like Dr Johnson, think they are refuting Berkeley by kicking a stone. Nobody has been found, I believe, to set forth that we know phenomena otherwise than by Intuition. Accordingly in this investigation of the meaning of the term and the sources and nature of the power, we may take our departure from this point, looking for the essential import of the name in that to which by universal consent it is correctly applied, and leaving for subsequent elucidation the extent and confines of its proper employment.

Etymologically considered, the word Intuition means a *beholding*, and it usually has been construed to designate an *immediate beholding*. This immediacy of cognition seems to be the essential character of an intuition. There is nothing intervening between the cognising mind and the object of cognition; the mind looks directly upon that object. I move my arm: I am conscious directly of the movement. Something strikes my foot: I cognise the pain immediately. A ray of light reaches my eye: I apprehend the colour without any intervening medium. I close my eyes and reflect; I remember what happened yesterday: that there is a mental action I am aware immediately; in having an idea I know that I have an idea, at once and indubitably. All these are instances of presentative phenomenal cognitions; thus out of the fact in regard to which all thinkers are consentient we obtain for Intuition both illustration and definition. It is perhaps allowable to assume here that the immediacy is the essence of the term in all cases where the cognitions though not presentative are claimed to be and are called intuitive. It is said, for instance, that we know Being intuitively, meaning that we know it in the clearest and completest manner in which we know anything, that is to say, immediately. For we know what we know intuitively "without the inter-

vention of any other idea"; and, to quote further the words of Locke—"this kind of knowledge is the clearest and most certain that human frailty is capable of. This part of knowledge is irresistible, and like bright sunshine forces itself immediately to be perceived as soon as ever the mind turns that way; and leaves no room for hesitation, doubt, or examination, but the mind is presently filled with the clear light of it. 'Tis on this intuition that depends all the certainty and evidence of all our knowledge, which certainly every one finds to be so great that he cannot imagine, and therefore not require a greater."\* If then it be allowed (and it will hardly be disputed) that by *intuitive* is meant "the clearest and most certain" knowledge, and that such knowledge is the clearest and most certain as is cognised "without the intervention of any other idea," immediateness may be accepted as a criterion of intuitive cognition, and Intuition may be defined as "immediate beholding". It is hence apparent that the question to be settled in a given case of doubt as to whether anything is an intuition or not, is simply whether the given object is cognised immediately or mediately: if the former the cognition is intuitive, if the latter it is not intuitive.

What cognitions then are immediate? At least all cognitions so far forth as they are presentative: if such are not immediate, no cognitions are immediate, and the word is destitute of meaning. In discussing representative cognitions (MIND, No. X, p. 270) it has been noticed that they have in a marked degree both a presentative and a representative side. In their presentative aspect, they are ideas as phenomena irrespective of their signification; as representative, they are reproductions of former experience known as such. I think of a rose seen yesterday and not now present: this idea of a rose is a presentative experience in so far as it is a mere mental phenomenon; that I have this idea I cognise immediately; but in so far as I cognise the idea as a representation of yesterday's experience, the cognition is representative, and such a cognition of the prior experience is effected through the medium of the present idea. In representative cognition, therefore, so far forth as it is representative, we must be said to re-cognise a fact through the intervention of a present idea. Representative cognition is hence mediate.

In the distinction between presentative and representative knowledge lies the entire difference between immediate and mediate cognition, and thus between intuitions and those cognitions which are not intuitive. Just here lies the solution of the whole difficulty in which metaphysics has been involved over intuitive and non-intuitive knowledge. It is the neglect of this distinction and the want of a sufficient understanding of the

\* Locke: *Essay concerning Human Understanding*, Bk. IV., ch. 2, §1.

growth of representative cognition, its differentiations and redintegrations, that has led men to such contradictory and confused notions of the meaning of Intuition. It is attention to this difference and careful association of intuition with presentative knowledge and non-intuition with representative, that will alone keep the mind free from confusion upon this topic. To the extent that a cognition is presentative, it is intuitive; in the degree that it is representative, it is not intuitive. In order to make this truth plainer, and to support it, we will now review the different degrees of presentative and representative cognitions in greater detail, and after such an examination we shall be able, as there arises occasion, to note the aberrations of philosophers on the subject, seeing how and where they have departed from the narrow path, adherence to which (in my judgment) can alone save the traveller from becoming entangled in a pathless maze.

But a word is needed in this place in regard to the co-ordinate subject of this essay. If Inference be opposed to Intuition, so that the two exclude each other, the former must be separated from presentative cognition and ranked with representative. And this seems presumptively the proper course to take. Certainly when we infer a thing we do not behold it immediately, but mediately; and when we intuit any object we do not infer anything so far as we intuit it. Inference may take place collaterally, but that which is intuition is outside and exclusive of whatever inference there may be. Yet we are not at present prepared to say that inference is co-extensive with representative cognition; for though it appears that every inference is mediate cognition, it is not yet evident that every mediate cognition is an inference.

Leaving the subject of Inference, however, for subsequent treatment, let us now examine some intuitions and so-called intuitions. It will readily be admitted that cognition is almost wholly intuitive in the lowest grade of presentative cognition, wherein the mind occupies itself with localising on the body a single sensation, as a burn on the hand. The sensation of the pain in the member is apprehended intellectually by intuition; the representative element is least evident. But even in these simplest intuitions the question meets us—What is it we immediately behold? If it be replied that we intuit the sensation, it is necessary to know what is the sensation. So far as it is feeling, we feel it; so far as it is cognition, and subject to analysis, we may ascertain the elements of which the cognition is composed. In a preceding essay (*"Knowledge and Belief,"* MIND, No. IX.) it has been found that every act of knowing (and believing as well) involves certain fundamental relations present



and cognised; the relations of which we are conscious are *Agreement, Difference, Time, Representation, and Power*, these names being general expressions to designate the relations cognised in every act of knowing. We have an intuition of things involving these relations. We do not immediately cognise agreement in general, difference in general, time in general, and so forth, but we behold intuitively an object presented as the same with itself, as different from another beside it, as continuing, and as succeeding or preceding another. By analysis we discover these general and fundamental constituents of every cognition; that is, we discover them by reflection, which is to say, mediately. What we intuit is in each case certain sensations cognised by ourselves. In each individual experience we have an intuition of something agreeing with something, something differing from something, something represented, something continuing, and something succeeding something, while in the consciousness of *something* we have also what has been termed *consciousness of power*, active and passive; but the expressions by which we describe these experiences mark generalisations which are not intuitive.

It must not escape attention that there exists also from the very dawn of consciousness, even in the cognitions most characteristically presentative, an element of representation which is not immediate. Every item of conscious experience requires representation in order that there may be any continuity of experience. Hence there are no unmixed intuitions; intuition is succeeded by representation and the converse. Intuitive cognitions alone would be like flashes of lightning in the night, for a moment illuminating, but after an instant going out, and leaving only thick darkness. Where the representative constituent is less prominent than the presentative the cognition may be called prevailingly intuitive, but in all cases there is an element not intuitive.

Since in all cognition there is a discrimination between self and not-self, between the phenomena of mind and not-mind, it follows that at every instant of conscious experience we intuit a difference between the Ego and the Non-Ego. It is important that the character of this intuition be not misunderstood. In describing an intuition we are forced to use language which makes a cognition not immediate but mediate; we can only treat of immediate cognitions by mediate ones; we can know that we have presentative experience only by representative cognition. The cognition signified by the term Ego embraces a series of experiences terminating at the present moment; equally so the cognition made manifest by the name Non-Ego. If we speak of knowing the Ego and the Non-Ego by intuition, we

shall be almost certain to err unless we keep in mind this fact. We do not know by intuition that the Ego of to-day is the Ego of yesterday, nor that the Ego of yesterday is different from the Non-Ego of to-day, nor that the Ego of yesterday is different from the Non-Ego of yesterday; for such knowledge is dependent upon representation. We merely cognise intuitively at each successive moment of time, so small as to be definitely inappreciable, that Ego *am* other than Non-Ego. In no way different is the discrimination intuitively made between the phenomena which connect directly with the external world and those which appertain exclusively or concurrently to mind. Whatever intuitions we have of space, matter, force, time, and motion, are intuitions only of space, matter, force, time, and motion, as in and composing each external object or phenomenon we cognise. From moment to moment we have intuitions, presentative experiences, which representation discovers to involve these relations. We have no intuition of space in general, force in general, motion in general, but only intuitions of something extended, something resisting, something moving. We shall have occasion to refer to these cognitions of space, force, motion, &c., in a subsequent paragraph, and till then we will dismiss them from consideration.

We now pass to a higher grade of presentative cognitions, namely, those in which a plurality of sensation is distinguished and localised upon the body. How far do we cognise intuitively the prick of a pin upon the hand and the simultaneous impact of a stone or block of wood upon the foot, supposing that neither of the two sensations is so intense as to overpower the other, nor so faint as to be unheeded in the presence of the other? The answer to this question is implicated in the reply to be given to the more general query—What is co-existence? The answer to the latter interrogation is perhaps not yet to be considered settled. It seems to have been pretty well made out, however, that co-existence is but a form of succession. In such a view a cognition made up of two simultaneous sensations would have in its composition a larger amount of representation than where a single sensation is cognised. For, in order to sustain the two together, a representative cognition must alternate with a presentative in very close succession: while sensation A is present sensation B must be represented in association, and while sensation B is occupying present attention there must be a mental reproduction of sensation A in contiguity therewith; the mind passes from A to B and from B to A, giving specific present attention to each in turn and losing sight of neither. In the cognition of co-existent phenomena there is accordingly an additional grain of representation over the preceding case, and hence a less amount

of intuition. But if, on the other hand, it finally be made evident that co-existence is not resolvable ultimately into succession, but that the mind actually and literally can apprehend two things at the same time, the intuition involved in the cognition of co-existent sensations would be of precisely the same character and in precisely the same degree as in the inferior grade (in complexity) of presentative cognitions which was noticed in paragraphs just preceding; the amount of representation relatively to the amount of presentation would be the same in both instances.

A still more complex degree of cognition occurs in the perception of external objects. In viewing a book lying on the table I do not see the under side of it at all, yet I am perfectly well assured that if I turn the book on the edge I should see something substantially like what I now see. I have an intuition of the upper surface, but I mentally complete the book by reproducing my past experience of the structure and form of books. When therefore I say I intuit a book before me (if such a verb may be formed), I do not speak correctly. The proportion of representation in the cognition is not so large as when I think of a book, none being before me, yet it is considerably larger than when I apprehend a pain in my head, or a pain in my head and the pleasurable odour of a rose co-existently or successively. Therefore, in perceiving whole objects in nature, I cognise a portion immediately and with this immediate cognition I cognise another part mediately. Perception of objects is hence partially intuition and partially not intuition. Of course, where there is a plurality of objects cognised, there is an increase of complexity in the cognition, but the relative proportion of immediate and mediate cognition remains about the same; at any rate, whatever difference there may be is not of a sufficiently distinctive character, in kind, to need more particular explanation.

In the case of ideas considered as mental phenomena irrespective of their representative aspect, the same line of observation may be pursued. Every such cognition is immediate or mediate according as it is viewed; there is a sort of double consciousness which has not been resolved into anything more ultimate—so to speak, a consciousness of presentation and a consciousness of representation. But even when we are regarding an idea simply as a phenomenon, the peculiarity must be noted that even on the presentative side there is also representation, else the idea could not continue as an idea but would be evanescent and incognisable.

Having now run over the different ranks of presentative cognitions, let us turn to those characteristically representative, in order that we may have opportunity to see in greater detail what

cognitions cannot in any sense be said to be intuitions. The simplest representative cognitions need not detain us long. Recollections of events or trains of events, appearances or collections of appearances, are not intuitive. In remembering a man whom I met on the street the other day, in recalling the features of a landscape I saw last summer, in reviewing the scenes of my school-days, in reproducing in idea as well as I am able the pains of a fit of sickness or the delights of a concert or spectacle, I have no intuition, but only a mediate cognition of the past experience. These things are matters of remembrance or recollection; nobody claims that the name intuition is applicable to them (excepting always the consideration of these cognitions simply as ideas).

Representative cognitions, wherein parts of experiences are transposed and transferred from one connexion to another, but so preserved in their integrity as to be traceable and recognisable, exemplify a higher degree of complexity in cognition, but exhibit nothing essentially different from the last case as regards the points now under consideration. There may be in my room a bust of Washington and one of Lincoln, and I can very readily imagine the Washington head on the Lincoln shoulders or *vice versa*. It is evident, however, in my mind that the head I put on Lincoln's shoulders in idea is a representation of the head which I have seen on the Washington bust. I simply make a constructive junction of two mediate cognitions. There is no intuition but the intuition of an idea of a bust made up as aforesaid. In all the varieties of representative cognitions thus far noticed, there is no disagreement among philosophers as to the fact that the cognitions are not intuitive.

Advancing a little further in the course of the elaboration of knowledge, we meet with combinations of parts and wholes of experience into new wholes, forming what are known as general and abstract notions. These may occur alone or in couples, which unite cognitions of varying generalities in judgments. As to the character of general and abstract notions, there have existed wide differences of opinion. Some thinkers have considered them to be intuitions *par excellence*, while admitting their generality and abstractness; others have denominated some particular cognitions of this class intuitions, while they have denied the name to the fellows of these cognitions. Correspondingly, those judgments which express general knowledge have often been called intuitive, and it seems as if the higher and more far-reaching the generality the more confidently the term has been applied. In fact, nearly all cognition whatever reaching in complexity beyond that characterised in the last paragraph, has at some time and by some one been dubbed in-

tuitional. But all those cognitions which are marked by general and abstract names, even those indicated by the names Being, Time, Space, Substance, Motion, Power, Force, The Infinite, The Absolute, The Beautiful, The True, The Good, and the like, are reached by abstraction and generalisation; they are thus representative, hence mediate, hence not intuitive. This conclusion, however, does not determine whether or not they are innate, necessary, or universal. That such cognitions have been held intuitive is owing to the fact that thinkers have failed to apprehend the difference (or to keep it before them) of an act of present apprehension and the results of remembering, connecting, abstracting from, and generalising such acts; also to the fact that thinkers from a hazy, mystical habit of thought, from the fear of consequences to some of their prejudices, and from a want of careful observation and profound analysis, have been led to assume the existence of a super-sensible undefined faculty of the mind to see by "the mind's eye" what they have crudely imagined ought to be seen, or what they would like to have seen.

We may be asked here what disposition is to be made of axioms? *The whole is greater than a part; Two straight lines cannot enclose a space; If equals are added to equals the sums will be equal*, will be cited. The answer to be given to such queries is that axioms are generalisations or expressive of generalisations. If the first proposition were *This whole now before me is greater than its part*, we might consider that the cognition represented by the phrase was intuitive, but as the axiom stands (and if it were not in that form it would not be an axiom), the meaning is not the whole before me, but all wholes that I have ever seen or shall see, all wholes in fact that anybody has seen or can conceive of. Now, without discussing the origin of such cognitions as are called axiomatic, it may at least be asserted generally that our cognition of their truth is not a matter of knowledge but of belief. We *believe* that all wholes are and will be found to be greater than their parts. We associate together in thought a number of wholes. But association and belief are not allied to immediate cognition; belief is always mediate cognition. Similar observations may be made of the other axioms mentioned; also of any others that might be mentioned. They are generalisations from experiences which are intuitive, but are not themselves the experiences. To call them intuitions is to confound important distinctions of knowledge, and work confusion.

Dismissing the axioms, it may be observed that in comparing objects and referring them to classes, or in cognising objects as comprehended under classes, as when we say *Trees are green, Apples are sweet and sour, Man is mortal*, the predicates are always highly representative and the subjects may be so. The

prevailing character of the cognition is thus representative and mediate, and the knowledge as a product is mediate. Here we shall probably have no one to contradict us. And much more is such a characterisation applicable to chains of reasoning as syllogisms. Reasoning is held by all to be mediate cognition. But in passing to the highest grade of representative cognitions, wherein general notions and particular cognitions are combined in forms making highly complex wholes which have no correspondent reality, in maintaining that intuition is absent except as to the ideas considered as phenomena, we might again encounter opposition from those esteeming that man has a "reason" or "intellectual intuition". Many think their visions are revelations of a reality transcending experience. Some religious enthusiasts would claim that their imaginative flights in the portrayal of the glories of God's kingdom are intuitive cognitions of supermundane realities. Such descriptions as those given in the Apocalypse of St. John might be cited as examples. Whether or not there may be realities of which the luxuriant imagery of the Book of Revelation is symbolical, is a question open to debate, but it is perfectly obvious that, while as wholes these descriptions do not raise cognitions corresponding to experience, they are composed of elements which experience affords. The parts of the pictures are parts of remembered experiences; the terms used to describe the wholes have primary reference to experience and derive their meaning from experience. The representative character of such cognitions thus appears plainly enough, and while it may be possible that what they image may *become* presentative, that they *are* immediate cognitions of realities, seen intuitively, cannot soberly be maintained for an instant.

Having now reviewed the several classes of cognitions, we have seen what are intuitions and what are not intuitions; and while no cognition is wholly intuition we have observed in what ones the intuitive character is sufficiently prevailing to warrant applying the name *intuition* to the whole. The poet says that "Knowledge is of things we see."\* In these words, when properly interpreted, there is the soundest philosophy. I know of no more important reform required in the use of terms as affecting thought than the restoration of the words *intuition* and *intuitive* to their proper and original signification. It is a reform imperatively demanded. Unless they can be rescued from such uses as they are made to subserve when they designate general notions, they had better be discarded altogether. Undoubtedly some will contend, while conceding the primitive meaning of *intuition* and *intuitive* to be what is here set forth, that after all

\* Tennyson: *In Memoriam*.

in practical use the words have become so modified as to make them the most suitable for expressing all fundamental truth. When a word has acquired a fixed signification, even though that be quite a different one from its earlier denotation or connotation, it is often better, these people would say, to accept the situation than to try to restore what has been lost. Often, but not always—and while remark of this kind would be quite true in many cases, it is nevertheless not pertinent to the present one. If no reform were made, but the evil practice of which I am complaining were to become universal, there would still be need of a distinction to be drawn between presentative knowledge and that of representation, and the application of the term *immediate* to presentative knowledge would be likely still to continue. Unless then it can be restricted to presentative knowledge an entanglement of meanings is inevitable, for we could scarcely divest *intuition* of its meaning of immediateness. We should all the time, therefore, be confusing presentative with representative knowledge, but the distinction between the two lies at the foundation of all scientific classification of products of the intellect, and to obliterate it or confuse it is to destroy or confuse the very science of knowledge. It would be far easier hence to confine the words in question to their obvious and primary meaning than otherwise to avoid the confusion and trouble sure to result from extending them beyond this sphere of application. It is certainly worth our while, therefore, to endeavour to suppress the illegitimate employment of which I have spoken. It may be suspected that men—not understanding the nature of belief and not regarding belief as conveying certitude equally with knowledge, feeling that there are certain truths necessary and universal and apprehending also that presentative cognition is vivid, certain and indisputable—have, in order to convey and secure the impression that those necessary truths are equally vivid and certain, appropriated the terms *intuitive* and *intuition* from their reference to presentative knowledge, to characterise the others. If, however, the mind can be led to see that we may be as certain of what we believe as of what we know, and that a truth may be necessary and universal without being intuitive, we shall perhaps find it less of a task to persuade people to relegate the name *intuition* and its kindred adjective to their original and only justifiable use of designating cognitions which are characteristically presentative.

DANIEL GREENLEAF THOMSON.



## V.—THE NEGATIVE CHARACTER OF LOGIC.

AMONGST the difficulties which a student of Logic has to encounter, it will be generally admitted that one of the most persistent and perplexing is that of keeping steadily in view the exact nature and limits of his own inquiry. Certain other sciences—especially Psychology and Metaphysic—are so closely related to Logic, correct answers to their questions are so important to it, that in spite of the greatest possible care there must always be considerable danger of confusion.

At present, however, the danger, instead of being met and fought against, is rather overlooked. Our great authorities, in treating of the subject, fall into the oversight so often committed by those whose early difficulties are past and forgotten, of disregarding the difficulties of beginners. A statement of the province of Logic is usually found either in the introduction alone, or in the appendix also, to a work on the subject: the limits of the inquiry are discussed once for all and the results of the discussion thrown into the form of a neat definition, and then the student is supposed to be fully equipped for his task. During the rest of his progress he will receive little or no direct help in keeping those limits clearly before him. The teacher, feeling himself safe, does not realise how near the danger is to the pupil: he forgets that his own feeling of safety is, so far as it is at all justified, in a great measure due to a multitude of past victories of which that definition is to him an artificial memory; while to the pupil it is only an abbreviated register, carrying far less meaning in the first place, and in the second place demanding for the remembrance of that meaning an appeal not to past personal experience, but to sympathy and faith.

It is not, then, against the *correctness* of such definitions as 'the Art and Science of Reasoning,' or 'the Science of Evidence,' that any objection will here be raised, nor even against their utility for some who are already masters of the science; but against their utility for beginners, and in fact for all who have not (literally or metaphorically) lived through the process of creating them. I would suggest that the student might with advantage be provided with some map calculated to warn him away more unmistakeably from the borderlands, some definition which should direct his attention more centrally on his own science; until the habit of voluntarily concentrating himself on his own work and of answering, in the name of Logic, only logical questions, has become to him a second nature.

It is here contended that the chief danger to beginners is that

of habitually conceiving the science of Logic in a too *positive* aspect. And the more enthusiastic and eager they are for the study, perhaps the more is this error likely to entice them. They are constantly forgetting that Logic is—to use Mill's excellent simile—only a judge: they fail to distinguish clearly between the functions of legislature, judge, counsel, solicitors, witnesses, and plaintiff or defendant.

Now, neither the definition 'Science of Reasoning,' nor 'Science of Evidence' is of any value in keeping this most important distinction prominent: other persons besides the judge are supposed to make some use of 'reason'; 'evidence' has to be not only sifted, but also found and produced. But it is distinctly the *sifting* of evidence that Logic properly attempts: the discovery, not of valid arguments, not of true conclusions, but of the validity or invalidity of given arguments to prove the truth of given conclusions. The function of Logic is to sit still and weigh evidence already produced, not to run abroad and find it: to distinguish, amongst arguments already urged, the good from the bad, not itself to aim at reaching a conclusion; to discover not the whole truth of any question raised, but only such truth as is proved by the evidence before the court; not necessarily to emerge from 'unknown' into 'known,' but to make sure at least of not emerging into certain particular forms of 'mistaken'. Logic is only a *supplementary* engine of discovery: not the well from which Truth is drawn, but the filter through which the natural and impure fluid must run, and cast off its impurities, before becoming of the best use to us.

It cannot, of course, be asserted that no reference to this fact is to be found in our leading works on Logic. Mill has already furnished us with the simile of the judge; and for half a page or more, in his Introduction, he enlarges the expression, turning it round on all sides, and emphasising it with his usual happy command of language. In many scattered passages too, throughout his book, he stretches out a hand to hold us back from at least one kind of questions extra-logical.

And most other writers on the subject have, in one way or another, recognised this limitation of their field. As Logic is "the common ground on which the partisans of Hartley and of Reid, of Locke and of Kant, may meet and join hands," so this view of Logic is one in which Material, Formal, and Conceptualist Logicians do actually agree: the only difference on the point—and that an individual rather than a party one—consisting in the different degrees of persistency with which the view is held. Logicians are not divided into those who admit the truth of the view and those who deny it, but into those who often, and those who seldom, remember it or care to make it known. Where

even our best modern text-books chiefly fail, is in treating us too much as if we had already learnt the fact; and, whether because of the very absence of opposition, or for some other reason, the student is certainly credited with more knowledge of his province than he actually possesses.

Now there are two obvious methods in which a person may distinguish accurately between good arguments and bad. He may either pay more attention to the marks of valid or to those of invalid evidence: and having learnt the marks of either, he may apply his test to any evidence brought before him; and with equally certain, and equally valuable, results.

At present the former method is the one most in vogue. The main portion of all our leading modern works on Logic is devoted to the marks of valid, or fruitful evidence. Fallacies are relegated to a book by themselves, after the chief labour of the system is completed: even the mention of them is introduced more or less apologetically, as a necessary sacrifice to old customs. Mill, for instance, gives to the practice of devoting "one considerable section" to the subject, the faint praise of being "too well worthy of observance to allow of our departing from it"; and in a later passage he says that it is "*not unimportant* to consider what are the most common modes of bad reasoning". Bain tells us distinctly that the whole of the second, third, and fourth classes in Mill's table of Fallacies "*might with the utmost propriety* be absorbed into the body of the work," and that the only plea which can be urged for mentioning the first and fifth classes, *as* Fallacies, is the difficulty of treating them from the positive side, under either of the heads, Deduction or Induction. "Some doubts," he adds, "might be raised as to the logician's title or obligation to enter upon the subject, but there could be none as to his allocating a distinct chapter to the consideration of it."

This plan of 'absorbing' as many fallacies as possible, and hiding the rest away in a corner, appears to me misleading. The directly contrary plan is the one here proposed.

*Contrariorum eadem est scientia*, and at first sight it might seem immaterial which of these methods we follow. Whether we separate the bad arguments from the good, or the good from the bad, the separation takes place equally: and this, as we have just said, is the whole duty of logicians. Even further, it has been plausibly argued that the negative 'not-valid,' like all negatives, covers an infinite number of possibilities, and that therefore its marks are not so definite as are those of valid evidence, and the individuals belonging to the class cannot be so exhaustively catalogued. We will take the latter of these objections first.

To say that because the class of not-valid arguments is numerically larger than the class of valid ones, therefore its marks are less definite, is to fall into the old error of supposing that classes are made first, and class-marks discovered afterwards; and to suppose that the marks of invalid evidence are at all less easily discovered than those of valid, is to overlook the Principle of Relativity. It is true that arguments vitiated to some extent by some fallacy or other, are potentially an infinite class, and in actual life are far more often met with than arguments perfectly sound in every part: but on this account we have more, not less, experience of the individual members of the former class, greater, not less, acquaintance with them. The point is, however, in this place at least, immaterial: what we are here concerned with is the fact that it is exactly *as* easy, neither more nor less, to decide that a given argument does not, as that it does, prove a given conclusion. The extent of our knowledge of the one truth is the measure of our knowledge of the other: for 'the other' is in strictness only 'the same in different words'. Whenever we have reason to know one truth, we have reason to know its counterpart. The infinity of the possible forms of error does not mean an infinity of marks: it is nothing more than the infinity which belongs to every class denoted by a general name.

As regards the objection that it makes no matter whether we search in the mixed heap of arguments for the good or for the bad, so long as we do make the separation, it is perfectly true but beside the point. We are looking now for some means of confining the logician's attention to the given heap, not only for a means of enabling him to sift the heap when he has already learnt that that is what he has to do. We cannot indeed *know* the marks of bad evidence without at the same time knowing, by implication, the marks of that which is good; but we can *search directly* for the one, and thereby search only indirectly for the other. We can cultivate, in short, one or the other of two distinctly contrary habits of thought.

Now the decision whether we shall habitually search for bad or for good evidence, will be found, I think, to make an important difference in the results attained. Owing, probably, to the 'inherent activity' of human nature, those who look upon Logic as the science of (positive) evidence—who habitually search for the marks of valid arguments—are as a matter of fact extremely apt to run outside such evidence as is brought to them for judgment, into the infinite field of that which may possibly be found: in other words, to take upon themselves the work of searching for evidence, as well as the judging of it when produced. By means of this 'positive' habit of mind, the student is often led to think that his duty as logician is not only to

discover which amongst given arguments are safe from all known forms of error, but that he is bound to do more—to exhaust the universe of possible arguments, and to tell us, without the help of gradual elimination, which out of an infinite possible number are true. From this habit hardly any logician is quite as free as he might be, and to it we may trace, more or less directly, a good deal of the distrust and disfavour with which the science is popularly viewed. To revert to Mill's simile, the people would have a strong objection to a judge who neglected his own duty through taking upon himself the functions of some other person,—especially if he claimed to perform this extraneous work with judicial authority. Is it not at least possible that the habit of viewing Logic from the negative side would have a strong tendency to control this wandering, and to bind the mind down to the examination of a definite amount of evidence?

It is not, however, only to the beginner *quâ* beginner that the negative method of studying Logic will be useful, for it is in this shape chiefly—as the enemy of Fallacy—that Logic can be most readily and suitably applied in actual life. As we have already remarked, the great majority of arguments daily met with are far from being perfectly sound and valid. Fallacy, in some shape or other, meets us at every step. The actual work which any one who tries to apply Logic, whether in everyday life or in science, will find himself chiefly engaged upon, is that of continually refusing to accept rash assertions rather than admitting safe ones; guarding and waiting rather than striking or discovering. Logic is, from the nature of the surroundings, essentially negative in its most practical application; and the positive method of studying it, even if the special dangers be avoided, is wasteful of time in translation for daily use. To discover fallacies, to reject false arguments, to eliminate definite errors from infinite possibilities of error, is the essence of the application of Logic. Discretion is our motto rather than valour.

What, then, exactly, is the remedy proposed?

In the first place, a definition might be framed, with very little alteration of the best existing definitions, and yet so as to make the essential negativeness of Logic far more prominent. Instead of the 'Art and Science of Reasoning,' we might say the Art and Science of *guarding* Reasoning; instead of the Science of Evidence, the Science of *sifting* (or filtering) Evidence; simplest and least mistakeable of all, perhaps, would be the Science of avoiding Fallacy.

In the second place, the whole subject might be treated from the negative side. We might study the science of sifting evi-

dence by first learning directly the marks by which to distinguish individual *fallacies* amongst a mixed mass of evidence, good and bad—just as, if we are filter-makers, we pay attention to the means for detaining impurities, and let others search for the purest water they can find. A whole system of Logic might be arranged, with the avowed intention of keeping this purpose continually in view; and, if the subject were treated at all, we might set apart, in a few chapters at the end, a list of rules for finding sound arguments by any other means than elimination, as a gift, extralogical, to such as are then ready to leave the study of Logic, and proceed into some other special science.

Throughout the system two facts should be kept ready for immediate production whenever there is a suspicion of their being wanted: first, that Logic has a certain really useful function to perform; and secondly, that that function is the cleansing of evidence, not the production of it: that the duty of Logic is not itself necessarily to prove anything, but to wait until some one else, or one's positive self, professes to have done so, and then examine whether that profession is correct: that the question which Logic attempts to answer is not "What is the fact of the matter?" but "What right has the speaker to say '*Therefore* such and such is the fact'?" Can any better plan be suggested than to cultivate a negative, impartial, judicial frame of mind, a habit of directing the attention not so much towards the possibility of establishing a given conclusion, as towards the discovery, by gradual elimination, of the conclusion, *if any*, which may already claim to have been established? We must be prepared, when necessary, to admit without a struggle that up to a given moment *no* conclusion has been established on either side. Often there will be a presumptive conclusion, but sometimes not even that. Let the logician when sitting as logician, like the judge when sitting as judge, feel neither the State's obligation nor the suitor's desire to reach *some conclusion or other*, and he will be rendering better service both to State and individual than if he attempts to do more than his allotted share of the work, while the public have penetration enough to recognise this fact, and to feel more respect for the logician's office when it is neither used as a cloak for usurping supreme authority, nor degraded and wasted by attending in person to work which can be more economically, and probably even better, done by deputy.

It must not be supposed, however, that the negative treatment of the subject will be *pure gain*. No doubt there are pitfalls and chances of error in this plan of study as in any other. I only maintain that its dangers are on the whole fewer, less serious, and more easily avoided than those produced by the

method usually adopted. They may be, in fact, all traced up to one error, and that error combated by means of a full preliminary explanation of the true meaning (in this connexion) of the term 'negative'. As soon as the student has mastered the fact that on the one hand this change in the treatment of the subject is no material innovation—that none of the truths already discovered in Logic are in any way materially affected, or their truth diminished, by being viewed from the reverse side; and on the other hand, that Logic is none the less a valuable science because essentially a negative one,—he will be guarded against all the dangers which are likely to befall him: and to make these two points clear can surely be no hard task.

A few years ago, there appeared a leader in the *Times*, on the subject of railway brakes, stating with evident seriousness that a brake which only slackened the speed of the wheels was more efficacious than one which stopped them altogether, because in the former case the wheels were an *active element* in the stoppage of the train. It is not often, of course, that we find the fallacy so nakedly and grossly stated, but still there is a widespread undercurrent of a notion that what is stationary is *not effective*: and it might be useful at the outset to render impossible for ever in the future, in any shape whatever, this false use of the word 'negative' to imply uselessness. The best way, perhaps, would be to show in their true light both the hasty generalisation and the verbal ambiguity, from one or other of which the mistake certainly springs: to point out that the name is properly applied here not in its possible meaning of opposition to the wide positive which includes the narrower positive-negative pair, but in this narrower meaning itself: and to remind the reader that in this narrower meaning it is a great over-generalisation to say that what is negative is useless. There are occasions when standing still is the best thing we can do, and in the hasty inferences which take place in actual life, these occasions occur often enough to render a purely precautionary science useful. In our reasonings the spur and the whip are already supplied in profusion; what we chiefly need is reins. Our natural tendency is to generalise, to infer, to believe, on the smallest provocation. There is water everywhere, and although it would be an exaggeration to say that not a drop is fit to drink, yet we are all continually swallowing a good deal that is hardly clear. The utility, then, is manifest, of paying serious attention to our filter; of making the detection of the different kinds of Fallacy the framework of the study of Logic. Directness in application, as well as steadiness of aim, will be the clear result.

The following rough outline will sufficiently explain the proposed treatment:—



At the top of our filter, where the arguments are first poured in, might be placed a layer of material competent to detain those forms of error which are most dangerous, or most frequent: lower down might come, in regular order, means of absorbing forms which are less to be feared. Thus, Fallacies of Confusion will occupy the chief position, *Ignoratio Elenchi* (including all kinds of verbal ambiguity) being at their head: next in importance will come *Petitio Principii*, including some forms, such as Platitude, ὅσπερ πρότερον, and Occult Causes, not usually classed along with it: and last, as least widespread and dangerous, will come such of the Fallacies of Ratiocination as remain over when Confusion has been subtracted. The treatment of Inductive Fallacies is, of course, the most difficult part of the work. It will be found that Mill's *à priori* class are in reality a part of these, and a decidedly puzzling class to fight against effectively; since they, even more than Fallacies of Confusion, hate the light, and wander in obscure corners of the mind, returning often, as ghosts, long after their substantial forms are dead and buried. Moreover, it must always be impossible to fix the exact point at which a theory shall first be considered proved, an Induction complete and sound.

But we shall find that by far the large majority of arguments are purified long before they reach even the second layer. In nearly every case where a difference of opinion appears to exist, such difference is not so large or so important as the disputers think: but what is large is their misunderstanding of the true question at issue. When that point is once definitely settled, the fiercest opponents generally become polite.

Three main questions stand out prominently whenever a doubt arises:—(1) What is the point at issue? (2) What is the evidence asserted? (3) What is the answer which that evidence allows? By dividing and subdividing these three questions, a complete list of all possible kinds of logical Fallacy would be drawn up.

ALFRED SIDGWICK.

## VI.—BUTLER'S ETHICAL SYSTEM.

PROBABLY no writer on Ethics has ever had so large a number of professed followers as Bishop Butler, and he is still regarded by many as having left behind him a system of Ethics which is in substance complete, and admits of little or no improvement save in the mode of exposition. I do not doubt or deny that he possesses many merits as an ethical theorist, while in the department of practical Ethics he will usually be found a safe guide. But it is a totally different question whether he has placed the Science of Ethics upon a safe and durable basis, and it is to that point mainly that the following remarks will be confined. Butler cannot, of course, be blamed for not taking into consideration the Association or Evolution Theories of the origin of the Moral Sentiments. They were not before him when he wrote, and in the hands of some of their advocates, at least, they do not affect the questions of Moral Obligation or Immutable Morality at all. With such writers these theories belong to Psychology not to Ethics, and it is therefore surprising that Sir James Mackintosh, for example, should have regarded it as a defect in Butler's system that he did not enter into an exposition of the Association Theory. That theory as expounded by Mackintosh leaves the real questions of Ethics exactly where it found them, and any interest it has is purely psychological.

"There are two ways," says Butler in the Preface to his *Sermons*, "in which the subject of morals may be treated. One begins by inquiring into the abstract relations of things, the other from a matter of fact, namely, what the particular nature of man is, its several parts, their economy or constitution, from whence it proceeds to determine what course of life it is which is correspondent to this whole nature. In the former method the conclusion is expressed thus, that vice is contrary to the nature and constitution of things; in the latter, that it is a violation or breaking in upon our own nature." As Butler chiefly proceeds upon this latter method, I shall consider it first.

Human nature, according to Butler, is a "system, constitution, or economy," which is thus explained. "It is one or a whole made up of several parts, but yet the several parts, even considered as a whole, do not complete the idea unless you include the relations and respects which those parts have to each other." But even this is not all, for he proceeds to say that "as every particular thing, both natural and artificial is for some use or purpose *out of and beyond itself*, we may add to what has been brought into the idea of a system, its conduciveness to one or more ends". Merely calling attention for the present to the

words I have italicised, I pass to his illustrations. First he instances a watch: I need not dilate upon the parts and their relations. The end is to keep time, which is plainly not an object to the watch itself, but to the maker or owner. The second is Human Nature. The parts here are—"appetites, passions, affections, and the principle of reflection," which last is afterwards identified with Conscience or the moral faculty. Then come the relations of the parts to each other, "the chief of which is the authority" (elsewhere called supremacy) "of reflection or conscience". Lastly, we have the end. From the very structure of the system it is plain that virtue is the end to which it is directed. Virtue consists in obeying one's conscience. The superiority of conscience to all the other principles in human nature is, as Butler says in a note to the Third Sermon, "the chief respect which forms the constitution," and hence the constitution is adapted to virtue. It is no objection to this that all men do not in fact become virtuous. Every work of art is liable to be out of order. The watch may go fast, or slow, or stop altogether, without ceasing to be a watch. If it be answered that this doctrine represents the Deity in the light of an unskilful watchmaker, or an owner who did not know how to alter or mend his watch, it is not difficult to see what Butler's reply would be. Virtue is a voluntary act, or a series of voluntary acts, and the will is free. There could be no virtue without free-will and free-will implies the possibility of vice. Admitting this to be true, it brings out one important point, in which the analogy to a watch, or any other work of art fails; and this Butler digresses from his main object to insist on. "Our constitution," says he, "is put in our own power. We are charged with it and accountable for any disorder or violation of it." Charged with it by whom? Accountable to whom for any disorder in it? Plainly to the maker of it, who organised it for "a purpose out of and beyond itself". I shall return to this point; but in the meanwhile I may remark that there is another important respect in which the analogy fails. The parts of a watch or any other work of art are physically separable, and capable of independent existence. But the notion that the various faculties, appetites, and passions of the mind are so many distinct entities existing in the mind, has long since been exploded. The whole mind thinks, remembers, loves, fears, wills, and judges. Hence when we speak of the supremacy of conscience or of any other part or faculty of the mind over the other parts, our language is metaphorical only and not literal, as it would be in speaking of works of art. In a strictly scientific work such metaphors should be laid aside, and the doctrine expounded in terms that

do not even apparently involve the supposition of faculties existing as separate entities. I presume this could be done with Butler's theory of the Supremacy of Conscience, but I have found such difficulty in doing it that I think it wiser to leave that task to some more ardent disciple. Again, how is the Freedom of the Will involved in the Supremacy of Conscience; and if not, how can it be imported into the notion of virtue? Butler might perhaps answer that virtue consists in a series of efforts of free-will aiming at giving conscience in fact that supremacy which God intended that it should have; but if such was the intention of the Deity, would it not have been more effectually accomplished by abolishing free-will and making conscience necessarily supreme in all cases? Here we are trenching on the old question of the origin and permission of evil; but I think Butler was bound to give further explanations on this subject.

To resume. In the beginning of the Second Sermon, Butler gives a further exposition of this method. "If the real nature of any creature leads him, and is adapted to such and such purposes only or more than any other, this is a reason to believe that the Author of that nature intended it for those purposes;" to which he goes on to add that the more complex the constitution is "the stronger is the proof that such end was designed". Here nothing is proved, except that God designed virtue as the end of Human Nature considered as a system or constitution. It is true that Butler speaks of the perfection of such a system both in the *Sermons* and the *Analogy*. But this by no means identifies his system with those in which Perfection is represented as the end of morals; for the only perfection of which Butler speaks, is perfection as an instrument—perfection in reference to the end "out of and beyond itself," for which the Author of the system intended it. "The most exact proportion possible," he tells us (*Analogy*, part i., ch. 5), is that "most exactly adopted to the intended state of life," and the main purpose for which our lives are intended is the practice of virtue. But the question immediately arises, Why should I seek to accomplish the end for which my Maker designed my constitution? The answer must either be, because it is right, or because by doing so I shall obtain the largest amount of pleasure, and the least amount of pain for myself. Possibly a firm believer in the Divine Benevolence as Butler was (at least in his *Sermons*) might reply, because by doing so I shall benefit mankind at large most effectually. I presume no one would answer, because my inclination to do so is stronger than the contrary inclinations. Butler at all events could not, because a large proportion of what he has written is directed against yielding indiscriminately to the strongest inclinations.

Turning then to the other answers, if we adopt the first, what has been the use of this whole argument from the constitution of human nature, final causes and the will of the Deity? The only test of what is right in this system is that conscience tells me so, and I might as well have appealed to the oracle at first as at last. Then whatever conscience tells me, it tells me with equal authority, and unless it commands nothing except to carry out the will of the Deity, as manifested in the structure of the human constitution, it cannot be the sole rule of morality to carry out this one command. The other two answers are equally unsatisfactory. I have various other ways of estimating the probable result of my actions as regards pleasure and pain, and if to obtain the former and to avoid the latter is to be my ultimate aim, why am I to neglect these? and the same thing may be said of my endeavours to promote the happiness of others. Finally, if our only reason for acting virtuously is that virtue is the end to which God has adapted the human constitution, whatever answer I may give to the question, Why am I bound to carry out the wishes of the Deity? the same answer would apply to every other instance in which the Divine Will is manifested to us, whether by the voice of nature or by revelation. Therefore the great moral rule should not be to carry out the Divine Will as manifested in our constitution, but to obey the Divine Will generally. And Butler himself (in his *Analogy*) treats the foreseen pleasures and pains which are the consequences of our voluntary actions as instances of divine rewards and punishments. If so, we should pay as much regard to them as to the development of our constitution in the direction indicated by its designer.

Accordingly when Butler comes to deal with the question of Moral Obligation, his treatment of it is by no means satisfactory. Man, he tells us, is by nature a law to himself, independently of rewards and punishments. This is not very definite. "Your obligation to obey this law is its being the law of your nature. That your conscience approves of and attests to such a course of action, is itself alone an obligation." Here apparently morality is set up on a basis independent of the Deity and of His design in framing the human constitution—in which case all that has been written about that constitution is so much waste paper, and Butler's second ethical method is abandoned. But he goes on: "Conscience does not only offer itself to show us the way we should walk in, but likewise carries its own authority with it, that it is our natural guide, the guide assigned to us by the Author of our nature". Here we get back again to the Deity; and it is impossible to ascertain whether Butler's answer to the question, Why am I bound to be virtuous?

is because it is right, or because God commands it. Moreover, it is impossible to found an immutable morality binding on all rational beings, upon the design with which the Deity framed the human constitution. "Though," says Butler, in a note to the Twelfth Sermon, "the good of the creation be the only end of the Author of it, yet he may have laid us under particular obligations, which we may discern and feel ourselves under, quite distinct from a perception that the observance or violation of them is for the happiness or misery of our fellow-creatures. And this is in fact the case; for there are certain dispositions of mind, and certain actions which are in themselves approved or disapproved by mankind abstracted from the consideration of their tendency to the happiness or misery of the world—approved or disapproved by reflection, by that principle within which is the guide of life, the judge of right and wrong;" of which he goes on to give several instances.\* His explanation is, that as we are not competent judges of what is on the whole for the good of the world, the Deity appointed these immediate ends for us to pursue to supply the want of broader views and a more matured judgment. The virtues which he mentions, as instances—fidelity, honour, and strict justice—are not then good in themselves, but only good in relation to a further end, *viz.*, the general happiness of all creation. But conscience judges them to be right in themselves without any reference to this further end, and indeed without seeing it at all. It is plain then that the rectitude of an act (as judged of by conscience, which is Butler's only criterion), is not any absolute property of the act itself, and that acts which we judge to be right in themselves, would from the point of view of a higher order of rational beings, possess no such quality, but be merely useful as a means. Indeed some actions of this kind might even prove to be wrong; for it would be going pretty far to lay down that by pursuing these immediate ends we *invariably* contribute to the ultimate end. That is not the character of any known empirical law. If the immediate end keeps us straight in ninety-nine instances out of a hundred, it is a very good substitute for ignorance and groping in the dark; but what then becomes of Immutable Morality?

Here are difficulties enough and difficulties which seem applicable to any ethical theory that could be based on the second of Butler's methods. But in addition to this, Butler vacillates in his account of the human constitution itself. We have seen him declaring that conscience has a natural superiority over all the other principles of our nature; and that doctrine is frequently

\* See too the passage from the Essay on Virtue, which is quoted further on in this paper.

repeated in his pages.\* This idea of the superiority of one faculty to another, where the former evidently is not the most powerful (at least in some men), being new, Butler lays hold of another instance to make it more intelligible to his readers—the superiority of self-love to natural propension. He might of course have said that, while superior to the lower parts of our nature, self-love was itself subject to the supremacy of conscience, but he does not say so. He stops at the point, “Reasonable self-love and conscience are the chief or superior principles in the nature of man, because an action may be suitable to this nature, though all other principles be violated, but becomes unsuitable if either of these is”. It seems to me that the causal relation of the two parts of this sentence has been reversed; but at all events we have now got two chief or superior principles instead of one, and the original argument that virtue was the end for which our nature was designed, is in danger of being invalidated by the introduction of the second superior principle. Butler's mode of evading the difficulty is as follows: “Duty and interest are perfectly coincident, for the most part in this world, but entirely, and in every instance, if we take in the future and the whole, this being implied in the notion of a good and perfect administration of things”. That is a practical, perhaps, but not a theoretical solution of the problem, and it is only satisfactory to a theist and a believer in a future life. But Ethics is a science intended for every one, and which it is desirable to keep clear of theology as far as possible. This indeed on the method on which I am now commenting cannot be done, for the whole argument turns on the supposition that the human constitution was framed by some one who had a particular end in view in framing it. Nevertheless, Butler is anxious to make his principle of the Supremacy of Conscience applicable to the case of a sceptic or an atheist. He deals accordingly with that case, in connexion with Shaftesbury, in his Preface. It may *seem*, no doubt, says he, if I am not a believer in a future life and a moral government of the world, that in some particular instances it will be for my interest to disobey my conscience; but I never can be *quite sure* that it will be so, because the results of my actions as to pleasure and pain can only be foreseen with probability, not with certainty. Now the obligation to obey my conscience is absolutely certain and known; there-

\* When we meet with such phrases as, “Had it strength as it has right, had it power as it has manifest authority, it would absolutely govern the world,” we may ask who tells us that it has right or authority in the sense in which that word is opposed to power? The answer is clearly, The moral faculty itself tells us so. But in that case what faculty informs us of the superiority of self-love?



fore, this "certain obligation would entirely supersede and destroy the uncertain one, which yet would have been of real force without the former".\* But probabilities sometimes rise so near the level of certainty, that for all practical purposes there is no distinction between them; and if the obligation to self-love be really the higher or superior obligation, it surely ought, when made out to a high degree of probability, to be suffered to determine the will. That there are exceptions to the happiness of virtue in this world, Butler himself maintains (*Analogy*, part i., ch. 3); and surely, in the case on which he principally insists, it could be foreseen and predicted with very considerable confidence, that it would not be for the happiness of vicious men (in this world) to reform. But suppose the (probable) obligation to act viciously from self-love remains, what is the consequence? We should then, says Butler, be "under two contrary obligations, *i.e.*, none at all". Yes, if the two were of equal strength, or rather of equal authority; but are they? Butler himself tells us the contrary. "It may be allowed," he says, in his Eleventh Sermon, "without any prejudice to the cause of virtue and religion, that our ideas of happiness and misery are of all our ideas the nearest and most important to us; that they will, nay, if you please, that they ought to prevail over those of order and beauty, and harmony, and proportion,† if there even should be, as it is impossible there ever should be, any inconsistency between them; though these last, too, as expressing the fitness of actions, are as real as truth itself. Let it be allowed, though virtue and moral rectitude does indeed consist in affection to and pursuit of what is right and good as such, yet, that when we sit down in a cool hour, we can neither justify to ourselves, this or any other pursuit, till we are convinced that it will be for our happiness, or at least not contrary to it." The concluding words no doubt save the system from falling into complete selfishness. We are under an obligation to obey our conscience in cases (if there be any) where we shall neither gain nor lose upon the whole by so doing; but still I can hardly see how the foregoing passage can be reconciled either with Butler's supposed cardinal doctrine of the Supremacy of Conscience, or with his argument in favour of virtue from the consideration of

\* Butler in this passage speaks of the obligation to conscience as being "the most near and intimate," but he makes no use of this phrase afterwards, and decides the question on the issue of certainty *versus* probability only.

† The whole context shows that Butler means to identify these terms with rectitude and virtue, which certainly does not look very like a doctrine of Immutable Morality.

the human constitution and the end for which it was designed by its author.

There are some expressions in the Sermon last cited also, which might lead us to think that Benevolence, no less than Conscience and Self-love, was a superior principle in human nature, while the Thirteenth and Fourteenth Sermons might lead us to ascribe a like character to the Love of God ; but I do not intend to enlarge on minor inconsistencies, if inconsistencies they be. I may also notice a mode of getting over the difficulty of two superior principles, which turns up incidentally in the Essay on the Nature of Virtue appended to the *Analogy*. It is there maintained, that "the faculty within us which is the judge of actions,"—that is unmistakeably the principle of reflection or conscience of the *Sermons*—"approves of prudent actions and disapproves imprudent ones as such, and considered distinctly from the happiness or misery which they may occasion". If this be so, it might be contended that self-love was not of itself a superior principle in human nature, but that its superiority consisted in this, that Conscience—the true supreme principle—approved of actions directed towards its gratification. But Butler has nowhere said that this reflected supremacy is the sole superiority which self-love possesses over the lower passions, and in some of the passages already referred to he says the reverse. In fact, in the *Sermons* he made use of the superiority of self-love to illustrate that of conscience, as being the more evident of the two. Again, in the *Analogy* itself, he maintains that there are exceptions to the happiness of virtue in this world, and of course in such cases prudence would lead a man who disbelieved in a future state to act viciously, *i.e.*, to do what conscience disapproves of. Hence it appears that, if conscience does approve of prudent actions as such, it can only be under the condition that they are consistent with the three other cardinal virtues of Butler, "justice, veracity, and regard to the common good". When the prudent action conflicts with these, conscience disapproves of it, notwithstanding that is seen to be prudent; and, therefore, the conflict of the two superior principles is not removed. Butler, moreover, in this very Essay seems disposed to place prudence on a lower ground than the other virtues, contrary to the passage which I have quoted from the Eleventh Sermon. As a further instance of his vacillation on the subject, I may refer to his answer to the objection, "that so far as a course of behaviour materially virtuous, proceeds from hope and fear, so far it is only a discipline and strengthening of self-love"—in the fifth chapter of Part I. of the *Analogy* (where by the way he assumes that such a course *may* form virtuous habits, contrary to

what he had already laid down in the same chapter). "Regard to our own chief interest" is there described as an essential element in a right character. Why? Because Conscience approves of it? Or because it proceeds from the other superior principle, Self-love? I do not think the passage supplies any answer.\*

I turn then to Butler's second method, and here the phrase "the abstract relations of things" (borrowed probably from Clarke) is so indefinite in its meaning, that it is only to be understood by examining the special exemplifications of it that occur in the *Sermons*. Of these, I think there are but two, one in reference to compassion, and the other in reference to resentment. The first of these (Sermon VI.) commences—"To these considerations drawn from the nature of man, must be added the reason of the thing itself we are recommending, which accords to and shows the same;" and then follows a proof of the utility of exercising compassion with the conclusion—"So that it is not only true that our nature, *i.e.*, the voice of God within us," (this phrase frequently occurs in Butler and confirms my view, that the argument from the nature of man is really an appeal to theological considerations) "carries us to the exercise of charity and benevolence in the way of compassion or mercy, preferably to any other way; but we also manifestly discern more good done by the former or, if you will allow me the expressions, more misery annihilated and happiness created". The other application of the method occurs in the Ninth Sermon, in the paragraph commencing—"In showing the unlawfulness of

\* It may perhaps be thought that, in the foregoing discussion, I am in error in taking as Butler's definition of virtue, "a course of action of which conscience approves," and that the true definition is "a course of action suitable to our nature, considered as a system or constitution," or, as some of the ancients put it more briefly, "a life according to nature". I do not think that such is Butler's ordinary meaning of the term. He certainly frequently identifies it with that which the moral faculty approves, *e.g.*, where he says, in the Essay on the Nature of Virtue: "Nor is it at all doubtful in the general what course of action this faculty . . . approves or disapproves; for as much as it has been disputed wherein virtue consists . . . there is in reality an universally acknowledged standard of it." But suppose the contrary, and what is the result of Butler's ethical method? Simply, that starting from a definition of virtue different from the ordinary one (for that mankind in general mean by virtue that which they regard with moral approbation, seems to be incontestable), he arrives at the conclusion that the two definitions will coincide in result. Define virtue as that which accords with human nature as a constitution, and the question, What obligation am I under to act virtuously? remains as unanswered as before, I cannot discover that any such obligation can be derived from this notion of a constitution, whether referred to its Author or not. Yet the object of Butler's two methods, is to lead to "our obligations to the practice of virtue." (Preface to *Sermons*).

revenge, it is not my present design to examine what is alleged in favour of it from the tyranny of custom and false honour, but only to consider the nature and reason of the thing itself"; and then follows an argument which aims at proving the greater utility of foregoing than enforcing vengeance on those who have injured us. The ethical method then, which starts from "the abstract relations of things," is simply that which starts from the principle of general utility; and the reason of the designation is explained by a passage in the Twelfth Sermon. "It might be added," writes Butler, in this paragraph, "that in a higher and more enlarged way of consideration, leaving out" (that is, abstracting from) "the particular nature of creatures, and the particular circumstances in which they are placed, benevolence seems in the strictest sense to include in it all that is good and worthy"; and he goes on to apply this to the Deity and higher orders of rational beings. But how are our obligations to virtue made out by proving its general utility, *i.e.*, that it benefits others? \* If it be said that the moral faculty approves of benevolence, why not have appealed to this faculty at once? If all our obligations to virtue are to rest ultimately on the supremacy of conscience, what do we gain by proving that the course of which this faculty approves is either consonant to our nature considered as a system or constitution, or that it tends to the general benefit of mankind?

Both of Butler's ethical methods then leave us exactly where we began. Moral obligation must be at last taken *per saltum* as involved in the Supremacy of Conscience, of which (as Butler contends) we have a direct perception, and these preliminary discussions about human nature and utility only serve to keep the real point of the system out of sight. Moreover, according to Butler, this argument from the abstract relations of things does not lead to the practice of *all* virtue; for he is careful to tell us in a note to this Twelfth Sermon, which I have already quoted, that the moral faculty approves and disapproves of many actions, without any reflection on the benefit or injury which will result to mankind from their performance. There is an equally decisive passage in the Essay on Virtue:—"The fact then appears to be, that we are so constituted as to condemn falsehood, unprovoked violence, injustice, and to approve of benevolence to some preferably to others, abstracted from all consideration which conduct is likeliest to procure an overbalance of happiness or misery. And, therefore, were the Author of Nature to propose nothing to

\* How, moreover, is this method to be made consistent with the superiority elsewhere attributed by Butler to the principle of self-love, and with his doctrine that prudence is a virtue?

himself as an end but the production of happiness, were his moral character merely that of benevolence, yet ours is not so. Upon that supposition, indeed, the only reason of his giving us the above-mentioned approbation of benevolence to some persons rather than others, and disapprobation of falsehood, unprovoked violence and injustice, was that he foresaw this constitution of our nature would produce more happiness, than forming us with a temper of mere general benevolence. But still, since this is our constitution, falsehood, violence, injustice, must be vice in us, and benevolence to some preferably to others, virtue, abstracted from all consideration of the overbalance of good and evil which they may appear likely to produce." How is the argument from the abstract relations of things applicable here? It certainly is not the ground of approval or disapproval, and I cannot see how it is the ground of obligation. I have already noticed the bearing of such passages on the doctrine of Immutability Morality, which, notwithstanding, Butler unmistakably upholds. Thus, in the concluding chapter of the *Analogy*, he tells us that he has omitted a thing of the utmost importance—"the moral fitness and unfitness of actions prior to all will whatever, which I apprehend as certainly to determine the Divine conduct, as speculative truth and falsehood necessarily determine the Divine judgment"; and then he gives the application of this principle to the subject before him thus: "There is in the nature of things an original standard of right and wrong, in actions independent of all will, but which unalterably determines the will of God to exercise that moral government over the world which religion teaches". But how can we attain to such a standard, or even learn its existence, if our moral approbation and disapprobation are mere matters of Divine appointment, the reasons of which are concealed from us?

My conclusion is that neither of Butler's methods leads to anything, and that at the end of both he is compelled either to take moral obligation for granted, or else to abandon his methods and appeal to the moral consciousness directly—an appeal the force of which is weakened, not strengthened, by the process which leads up to it. Further, not only are his methods fruitless, but in attempting to work them out he falls into numerous inconsistencies, and in consequence his ethical system is in many respects incomplete, if not erroneous. He has no doubt left us some excellent observations and some valuable analyses; but the latter sometimes tell against him as well as in his favour. For instance, in distinguishing particular propensions from self-love, he says the difference becomes obvious as soon as we distinguish between the appetites themselves and "endeavouring after the means of their gratification". Now

this seems to me to be exactly the distinction which the advocate of the Selfish System must make in order to give his principle any appearance of plausibility. If he maintained that the pain of hunger was the result of general self-love, he would make himself ridiculous; but he might contend, with some appearance of truth, that all our endeavours after the means of gratifying hunger (or any other passion) proceeded from his single principle. I have, however, already occupied so much space, that I shall not pursue this topic any farther.

W. H. S. MONCK.

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## VII.—POLITICAL ECONOMY AS A MORAL SCIENCE.

To those who are interested in Economic Science, few things are more noticeable than the small hold which it has upon the thoughts of our generation. Legislation has been directly influenced by it in the past, and the results of the application of its doctrines are manifest in every department of our laws; yet, in spite of its triumph in this region, we find a widespread tendency to look on its teaching with suspicion, whilst one of our greatest modern writers impugns its fundamental principles, month after month, with the applause of a large circle of cultivated readers. Petitions from various trading interests—as recently from the watchmakers—show that the mercantile public are not swayed by it; working-class leaders notoriously disregard it, and foreign statesmen do not pretend to listen to its preachings. Those who regard the teachings of the science as not only true but important truths, cannot ignore the general neglect into which it has fallen, and it behoves them to investigate the cause of it. When a case is argued fully, as that of Political Economy has been during the last century, and the listeners remain unconvinced, there seem to be only two possible alternatives—either that the statements are untrue, or that they have been badly expressed. The latter appears to me to be the true explanation, and this paper is not an attempt to establish any new doctrine, but only to express the old truths in a better way. It merely claims to delineate a new method of treatment, and indeed one that is not wholly new: at most it seeks to maintain consistently a point of view which has been fitfully adopted in popular treatises on the subject.

### I.—*Various views of the Science.*

(a.) In its earliest beginnings, in the dark ages which preceded Bp. Berkeley, Hume and Adam Smith, Political Economy,

with its mercantile system, was a science of *things*. Value was supposed to be an intrinsic quality of certain objects; and a nation seemed to become rich by getting objects which possessed this quality in a high degree. All the ingenuity of the day was directed to the acquiring of valuable objects, at first by the somewhat crude method of compelling merchants to bring gold here and forbidding them to take it hence, till at length Sir Thomas Mun showed the shortsightedness of this policy, and explained how gold might be made to flow into the country. Then followed attempts to protect native industry, as the means for manipulating the exchanges and obtaining a large share of objects of high intrinsic value.

(b.) Though Adam Smith proved the untenableness of the old views, and dwelt on the fact that a nation which has many not-very-valuable things is richer than one which has a few very valuable ones, he hardly saw the true theory which, while implied in much of his teaching, was explicitly stated by Ricardo. Value is not a quality, but a relation—a relation between this object and desirable things in general. This being so, we cannot found our science on a mere consideration of *things*: we must look at that which gives a value to the things, and that is, the competition of actual owners and would-be owners. We have not to do with the mere practical usefulness of the objects, still less with intrinsic valuableness, but with a value which is conferred upon useful objects by the competition of various human beings who find difficulty in obtaining them.

It is thus that the questions of exchange have come to be fundamental ones in the science, since competition lies at the root of the notion of value. What J. S. Mill calls the "necessities created by social arrangements," has made exchange a fundamental fact in all the production of wealth. It is not wholly possible to distinguish the competition of man with man which drives most of us to work, from the competition of seller with seller which drives down price. The free flow of labour from one employment to another, the free flow of capital also, are assumptions which the doctrines of Ricardo involve: each individual human being is represented as the owner of something, of labour which he exchanges for sustenance, or wealth which he advances in return for the products of labour; by their competition with one another, the share of each competitor and the value of objects are determined. The ordinary doctrines of the school of Ricardo are expressed with some confusion in the popular text-books on the subject; to these we shall shortly revert. But with the view of exposing the inadequacy of this teaching it may be best to refer to it in the clear and consistent shape in which it has been worked out by Professor Jevons. He



insists that Political Economy portrays the "mechanism of interests," and is properly a mathematical science, dealing with quantitative differences. Since each individual is swayed in his commercial transactions by considerations of utility, *i.e.*, by the anticipation of greater or less quantities of (high or low) pleasure, the ratio of exchange is said to be determined by the competition of various individuals or groups of individuals, guided solely by considerations of utility.

Numerous objections may be urged against the science when thus treated. One of the commonest is perhaps a sentimental one—that Political Economy is a science of selfishness; and though Professor Cairnes has repudiated this charge on the ground that the science is merely descriptive and does not enjoin any kind of conduct, the mode of treatment before us gives some colour for the ordinary view. Professor Jevons speaks of the science as if it were utilitarian; but only the cruder forms of Utilitarianism concern themselves solely with degrees of intensity; and our attention is concentrated on the motive—individual gain, rather than the end—the happiness of the greatest number. This gives economical teaching—when considered in its moral aspect—the appearance of mere Egoism; and Egoism, if speculatively justifiable, is repugnant to the popular consciousness. Most of the socialistic antagonism to ordinary Political Economy is due to the belief that it is at root egoistic, and has regard to the wealth of individuals at the expense of the well-being of the community.

But there are more weighty objections. Mr. Bagehot pointed out\* that there have seldom been circumstances in the past history of the world when the conditions which are tacitly assumed by Ricardo have been present. The free play of competing interests, the free flow of capital to different channels and of labour to different employments, have had no place in the industrial condition of the great mass of mankind; for competition has rarely superseded the determination of the ratio of exchange by custom.

If the science, thus treated, is inapplicable to semi-civilised human beings, it is certainly defective as a representation of English industry to-day. Even in this country, the free action of competitive individualism is very considerably modified by other influences besides the remnants of feudal feeling. The presence of Trades' Unionism and its curious effects in modifying the character of competing groups is a case in point: not less marked are the interferences with the freedom of judgment of capitalists caused by the factory acts and similar legislation.

To these charges we may add one more: the teaching of the

\* *Fortnightly Review*, 1876.

school of Ricardo is psychologically incorrect. The increase of pleasure and increase of pain may possibly be the motive of all human effort, but the forms under which it manifests itself are most diverse. The self-interest of the non-unionist is qualitatively different from that of the man who merges his own individual interest in that of his society: we cannot regard them as merely quantitatively distinct. Still more, the self-interest of the man who spends his days in incessant toil, is different in kind from that of the man who undergoes the privation of supplying his neighbour with the means of working. One man's estimate of pleasure and pain leads him to marry and settle down now, and remain a labourer all his days; another prefers to wait and save for years, and to rise to a better position eventually; but we cannot say that the man who rises in the world has a greater regard to pleasure and pain than the other: he is influenced by a different kind of enjoyment, and a different kind of privation; the motives which lead to labouring or to saving capital are different in kind, not merely in degree. If, as Mill contended, *axiomata media* are needed for utilitarian Ethics, they are equally necessary for utilitarian Political Economy. We cannot exhibit economical phenomena as the effects of different manifestations of *one* force which is applied with different degrees of intensity, but must regard them as due to the interaction of *many* forces which are qualitatively, not merely quantitatively, distinct. This attempt at unreal simplification appears to me to be the fundamental error which has given the science an immoral guise while limiting its scope. The distorted treatment has made Political Economy an inadequate science, even for our own day, rather than one which explains that development of industry which has accompanied the developing powers of man.

(c.) This attempt to review the methods of treatment that have proved unsatisfactory may have already pointed out the direction in which we must apply ourselves if we would discover a better. Economists have too long considered human beings as tending to act from one impulse, and have taken for granted that the external phenomena of wealth are due to this one invariable motive; they have thus been contented with examining the laws which may be observed among these external phenomena. But it may be a question whether the science has not been confined too exclusively to things outside us. In undergraduate days, one was sometimes struck with the wide difference between this and the other subjects which were grouped as Moral Sciences: it had indeed to do with human beings, but the whole character of the study was diverse, and there was a certain relief in turning from the hopeless bewilderment of various analyses of conscience to the absolute clearness of Ricardo's

*Principles of Taxation.* It may be doubted, however, whether this clearness is not attained by removing the difficulties before entering on the discussion. With the view of simplifying the problems, a psychological assumption is made—more often tacitly than not—and a large number of lucid deductions are drawn. Might it not be better if Economy made less pretence to precision, and attended more carefully to the diverse activities of human nature? Political Economy has been a science of *things*, and discoursed of intrinsic value; it has been a science of *mechanism*, and explained the interaction of competing interests; may we not treat it as a moral science which considers *the resources of human nature for the satisfying of human wants*? Political Economy has to do with such of the resources—the activities and capacities—of human nature as are employed in the satisfying of human wants: it is not concerned with things as valuable in themselves—that delusion is done with forever—but with human powers working on things and giving them their worth: it has not to do with human atoms impelled by one force, but with the many powers which are common to all human beings, while they are more highly developed as civilisation advances. If this view of the subject removes the appearance of Egoism, it also gives the science a closer relation to actual life, both past and present. There may have been a state of society when practically, things had a fixed value, and the old thoughts were true; there have been signs of a time when there was no society and a competing individualism was the order of the day, and the doctrines of Ricardo represent the truth then. But our science need not be limited to any one of these conditions of mankind if it fixes its attention on the human powers that are at work in every stage of civilisation. Political Economy, as a Moral Science, may express general truths, while by other methods of treatment it is limited to special states of society and cut off from all relation to History.

## II.—General Principles.

These considerations seem to establish a *prima facie* case for at least some new method of treatment; and we may proceed to attempt a new presentation of old truths by delineating, very briefly, some leading doctrines in the form they would take as part of the science of the resources of human nature. To this view of the subject an objection at once occurs; we are concerned, not with thoughts and feelings—mental or moral powers—but with things. The growth of wealth implies changes in the material universe: it is for material wealth that men strive, and the resources of human nature may be very considerable, but they are not capable of filling a mouth, not to mention a pocket.

But though this is true, the fact remains that these material objects are not only valueless in-themselves, but useless in-themselves; they become useful from the fact that there is a man to use them. To one who does not know their use, they are worthless; and the increase of knowledge means, as Bacon saw, the increase of power over nature to turn material things to our uses. Things in-themselves have no place in our science; only material objects as known, and material objects as used. We do not need to cumber our discussion with any distinction between Mind and Matter, still less need we confuse it by trying to treat of both together: we shall include all that is needed for the study of the subject if we think of the resources of human nature, among which we may include its *knowledge* of nature and *inclination* to use it.

This may be a hard saying to those who have accepted the teaching of the common text-books; but we are not at issue with ordinary language, if we have gone beyond popular thought. A wealthy man is simply one who has many satisfactions, and the certain expectations of satisfactions to come: we may say that wealth consists of all pleasures present or expected which are embodied in a material form, rather than that it consists of "every commodity which has an exchange value". This is no mere quibble: so far as the latter statement is not a meaningless truism, it accentuates commodities rather than the feelings of human beings, which are the reasons of their worth. The thing in-itself has no value, only pleasure in the thing; and more than this, we buy or sell not merely the thing, but the expectation of pleasure embodied in the thing. When John and Thomas bargain as to a watch, there are at least as many possibilities of confusion as there are when they talk on other subjects.\* There is John's expectation of the usefulness of the watch to him, there is Thomas's expectation of being able to get more from some one else: on both sides there are ideal elements, and the thing in-itself—the real watch—is only the centre round which these subjective expectations cluster: so, too, the disappointment of a bad purchase is due, not to any change in the commodity, but to finding that the actual pleasure does not come up to the expectation.

So long as we assert that wealth consists of commodities, so long will it be impossible to divest men wholly of the belief that value is an inherent quality of objects, or to enforce clear ideas of the nature of wealth. Wealth consists of satisfactions embodied in objects; and the distinction is important when we remember that many exchanged commodities are not themselves the embodiment of any pleasure, but rather of abstinence from

\**Autocrat of the Breakfast Table.*

enjoyment. The result of our toil—the satisfaction of our wants—is surely to be classed differently from the commodities which we merely use for producing that result: the one is but the means to an end, the other is the end itself—a distinction which is sufficiently recognised in the common view of a miser as one who makes his means an end. Commercial crises would bear one out in saying that capital invested in a business is not wealth unless it can be realised into a form which gives security for the satisfaction of wants. If we only talk about commodities we ignore the different functions which commodities are made to serve in accordance with human activity: our science, by attending merely to the embodiment, has neglected distinctions among the powers embodied; and it is with these activities that we propose to deal.

*Energy.* There is little difficulty in perceiving the influence which drives human beings to work: want is the occasion of all human energy, just as it forces the birds of the air and beasts of the field to spend weary hours in the pursuit of prey. The wants of the savage are scarcely greater than those of the animal,—only a little food and a little shelter,—yet the privation he endures and the drudgery he undergoes in his spasmodic and frequently relaxed efforts to obtain the necessities of life, are immeasurably greater than those which are required to satisfy the wants of the civilised man in constant employment. The life of a North American Indian is not an easy one: it is one of wasted and misapplied exertion, and the greatest change in the civilisation of a tribe must occur, when they learn wisdom enough to devote themselves to regular work, and develop the mental quality we term *Energy*.

*Patience.* The capacity for regular work not only implies a growth of wisdom, but a development of other qualities as well. From no form of tillage, or other employment, can we obtain immediate results: in all of them we need *Patience* to wait, willingness to work now, for the gain of a distant day. It is partly because they have no capacity for waiting that the American Indians prefer a life of hunting and semi-starvation.

We may see, then, that before human beings can engage in any regular work at all, two things are absolutely necessary,—the *Energy* to engage in industry and a capacity for patient waiting. When either of these is wanting, there may be predatory or nomadic existence, but never any advance in the arts and comforts of life. Not less true is it that within all the various branches of our giant industry, these two factors are found: Labour in its countless forms is but the agent of intelligent industry, Capital is the representative of *Patience*, which is willing to wait for the results of work.

c. *Appropriation.* To these two factors in the satisfaction of want we may add a third: the recognition of the right of private property has been one of the most potent economical influences the world has ever seen. With the ground of that right, and the precise nature of that right, we have nothing to do: it may suffice to say that there was a time in most, if not all, settled Aryan villages, when communism and custom ruled the day, and that, so far as we see, no great expansion of industry was possible till this system yielded to that of private property. The recognition of this right affects both the factors we have already considered, for neither Energy nor Patience can fail to be stimulated by the expectation of appropriating the reward. Of course, Appropriation is implied in the satisfying of any wants; but it is only when society has developed to some extent that the influence of the 'desire of having' can be distinguished from that of physical needs and greeds. When we have thus added Appropriation as a stimulus to greater Energy and greater Patience, we seem to have given a sufficiently complete account of all the powers involved in the production of wealth.

Our account of the matter has certainly differed from that of the popular text-books which insist on *labour, capital, and land*, as the requisites of production. That analysis has a suspicious appearance of being drawn from the three classes of our community rather than from a scientific consideration of the case. Besides, the classification is very liable to be misunderstood. To the socialist, it may well seem as if labour were the only active factor in the production of wealth; capital and land being mere conditions of its exercise—just as noise accompanies the motion of a carriage: he is told that capital is "the result of labour"; and it is therefore obvious that capital could not have been needed for labour in the first days of human life, and that it cannot be necessary for the production of wealth. Still, further, the classification is redundant: capital often takes the form of land, and one cannot separate the two factors in considering the production of a load of hay. Labourers in all cases supply a portion of the capital—their clothes, themselves; and some economists use this term to describe their acquired skill. It is almost harder to carry out the distinctions clearly when we come to objects which are used partly for pleasure and partly for gain—say a horse with which a farmer hunts and which he also uses on business errands. Here it is obvious that the "distinction between capital and non-capital depends solely on the intentions of the owner" (Mill). 'Capital' is only a symbol of human power, it is the physical embodiment of Patience: 'Land' is a symbol for the Appropriation of natural gifts that is implied in all production, and which in its more definite

shape stimulates rapid production. Both of these are imperfect symbols, the use of which generates confusion; we might perhaps talk of 'Labour' without misconception, though after all it is of mental Energy and of moral Energy that we must think when we use the term, rather than of mere muscular power. Attention to these forces of human nature will assist us in other parts of the subject.

The importance of Energy and Patience for the production of wealth are obvious, but there are still some who think the Appropriation of natural gifts mere robbery. It does not lie within our province to justify it on general grounds; nor need we content ourselves with the assertion that private property is a fact, and must be taken as such; rather we may say it is a fact which has justified itself, for it is a prerequisite without which exchange can scarcely exist at all. The benefits that have accrued from trade would have been impossible unless for the prior admission of the principle—that the possessor of goods may use his own judgment about what he does with them. In the communal stage, exchange must be almost wholly unknown, and as a matter of fact the traveller in India has often considerable difficulty in obtaining the simplest and most abundant articles in a village where this phase still lingers, and where appropriation is not yet developed. There is no need to repeat the common demonstration that neither party loses by an exchange, and that generally speaking both parties gain, in order to prove the benefits which it can confer in satisfying human wants. Only let us beware of overlooking the recognition of the rights to appropriate and to *dispose of one's possessions as one sees fit*, on which the whole system depends.

The latter gives us a clue to the whole subject of exchange. In the simplest case of barter, the man who is content to wait and who is least anxious for the exchange, is at an enormous advantage in obtaining favourable terms; and the important thing to notice in every instance of exchange is the judgment of the less eager possessor as to the time to sell and the rate at which to sell: this really determines that the exchange shall take place at all. We have heard enough of the "mechanism of exchange," and the equation of supply and demand; it is perfectly obvious that the quantity supplied at a given rate equals the quantity demanded at that rate at each moment of buying and selling; but after all, this is a mere description of the fact, not an explanation. If any body understands the matter better for having it thus described, by all means let us formulate it thus, and draw our diagrams to express it more obviously. It is still true that the explanation lies deeper; there is an equation at each moment of exchange, but



what equates it? The possessor of the article chiefly-sought-for supplies it in such a quantity and at such a rate as he deems likely to satisfy the demand, or it may be to create a demand. He judges of the sources from which the article may be drawn, of the probable desire of the buyer or the public to possess it, and having considered these things to the best of his ability, he offers the article at a given rate: if he has made a mistake either as to the sources of supply or the wishes of the buyers, he is forced to alter his terms.

In ignoring this power of judgment it seems to me that current Political Economy has once more landed itself in a difficulty, through striving at too great precision. In the actual trade of the world, there cannot be this definite weighing of supply and demand; the equation holds for a moment, and in the next transaction there is a slightly modified equation; there is movement, change throughout the whole market, and business-capacity lies in estimating these changes, in catching the first signs of them or reading any indication of a possible alteration in the sources of supply or in the probable demand. If this is the main element in the actual fact of exchange, it must also be the central idea in our science if it is to explain, not merely to describe; and the best explanation will be found, not in analysing the conduct of competing units, but in trying to classify the motives at work in the mind of the man of greatest business-capacity or of best judgment. Without pretending to any completeness we may arrange the principal motives in such form as this—

- |   |   |                          |  |
|---|---|--------------------------|--|
| I. Circumstances which affect the judgment of the seller. | { | 1. Sources of supply.    | {<br>a. A monopoly.<br>b. A partial monopoly.<br>c. Open competition.                              |
|   |   | 2. Conditions of supply. | {<br>a. No increase possible.<br>b. Increase at increased cost.<br>c. Increase at diminished cost. |
|   |   | 3. Probable demand with  | {<br>a. increased<br>b. diminished } price.  |
- II. Circumstances resulting from the misjudgment of another seller.
- |   |  |
|---|--|
| { | 1. To consumer.<br>2. To other possessors.<br>3. To himself. |
|---|--|

The tabulation of the main points to be considered now-a-days has led us to use terminology which seems hardly suitable for exchange in all times and places. At the same time, if we think of the seller as the possessor of the article that is more desired, we may say that the same elements are implied in the simplest case of barter. The recognition of the right to private property coupled with the right of judgment about one's possessions, involved as they are in the very possibilities of exchange, are the clue with which we must work in simple and in complicated cases too. The clear connexion of the two rights may

be most clearly seen when we remember that after all it is just where the judgment of the possessor has not free scope in determining exchange that the right to private possession seems imperfect.

This brief account of the factors at work in the satisfying of human wants would not be complete without some consideration of those developments of human resources which are only found in civilised communities, and by which the power of energy and capacity for patience may be indefinitely increased.

*Skill.* That Skill increases human powers of production surely requires no remark. Skill in organising labour, and applying it with due division and wise combination for the accomplishment of ends, has had results which are familiar to all readers of the *Wealth of Nations*. Of the value of personal intelligence and of the cultivation of a knowledge of scientific principles, our generation are fully convinced, as the arguments of the favourers and opponents of compulsory education alike testify. We are told on all hands that if England is to retain her place in the first rank of mechanical industry, her workmen must possess more education and thus be provided with greater Skill. And in so doing they do wisely; in these days it is not mere bone and muscle which we want; with mighty physical forces adapted to every day task we rely less than formerly on brute force; we merely want the adjustment of natural forces to materials furnished by nature, and it is by the development of Skill, not by the multiplication of labourers, that the national Energy is increased. Those who talk as East Anglian labourers and Chelsea prophets have done about the worth of a human being, forget how much more worthy the skilful man is: they forget too that a rapid increase of population in a country where a Poor Law exists has a tendency to lower the standard of Skill and the national Energy: parents cannot afford the due training of their numerous progeny, and the nation if repleted with muscle is not replenished with Skill.

*Trust.* The increase of the power of waiting by means of Trust is another feature of modern industry; great are the opportunities for borrowing other people's capital, and using their powers of Patience for our own ends, on the faith that they will share in our expected wealth. These facilities render it possible for any manufacturer to extend his operations suddenly, and to take immediate advantage of any new opportunities of gain that may turn up. In this way the Patience of the country can be easily directed into new channels or transferred from one employment to another. Just as by Skill, Energy is economised through being wisely applied and wisely organised, so by Trust the Patience of the country is economised, and men wait for results

in those departments of industry where the best returns are to be had for the privation undergone. Its function in facilitating the exchange of goods—the way in which this new factor affects the judgment of the seller,—would require a long discussion to elucidate fully; countless questions about credit and crises are connected with it, and must be passed over now.

Such are the principal human powers which are at work in satisfying human wants; they have been exhibited in a consistent shape in their mutual relations, and hints have been dropped as to the place which each leading doctrine might hold when treated from this point of view. I would claim that nothing of economical importance need be omitted in working out the subject thus, and that no assumption has been made which is inconsistent with any condition of human development, high or low. By avoiding the temptation to unreal precision we may attain to a doctrine which, unlike the current abstractions, is widely true, while at the same time it harmonises with our ordinary talk. This last is no small advantage, and it was in the attempt to discuss economical questions with practical men that I was first led to see the convenience of treating Political Economy as a Moral Science. We may now test our representation by the means it affords for treating special questions with a fresh light; in so doing we shall encounter the difficult problems of the distribution of wealth.

### III.—*Treatment of Special Questions.*

*Trades' Unions.* There are very many points of interest connected with these associations which we might discuss; but we shall limit ourselves to the question how far they can "better the condition of the working classes". There are probably some who use this phrase, to whom it does not seem a truism—who would feel it almost a quibble—to say that we cannot better their condition unless we first better them. The common belief is precisely the reverse, that we must have better houses, shorter hours, &c., and that then we shall have more opportunity for self-improvement, that better conditions are the first step to better men. It may be so, but unless the self-improvement comes quickly the improved condition cannot be retained; it is only by self-betterment that the better condition can be secured permanently.

For after all there cannot be a greater share of goods for each, unless there is a larger stock to be divided: it is, as we have seen, by the increase of Skill that human labour is for the most part improved in its powers; and, other things being equal, there is no better source to which we can look for the satisfaction of human wants than increased Skill; it is by this means that a

greater permanent supply can be obtained, and a larger share given to each. It may indeed be said that there is another way of enlarging the gains of the labourers—not by increasing the wealth of the world, but by altering the proportions in which it is divided, and that by aiming at this we may better the condition of the labourer without waiting for the more tedious process of bettering himself. Yet after all the bargain between the capitalist and the labourer—however we interpret it—is a case of exchange, and must come under the general delineation of exchange which we have given above. The better man, either he who has most Skill, or he who has most independence and ability to wait, will be in the best position for making terms with his employer. In so far as Unions have succeeded in raising wages, it may be said that they have done so because their members have been made self-reliant men: in so far as they can retain these advantages, it must be because their members are more skilful than they were,—because having what is more valuable to dispose of, they can afford to drive better terms in the bargain. The strength of a Union depends on the Skill of those united as well as on the strength of the bond between them: mere union may overcome divided employers, but only skilled union can hold its own against federated ones. Mere reliance on each other must be in the long run as futile as isolation has proved, unless there is Skill in each other on which they can rely: this and this only can serve as a vantage ground from which to dictate better terms. How far this is recognised by working-class leaders does not concern us at present, though there have been signs recently that some of them are more keenly alive to it than is generally supposed.

*Capital.* A whole network of confusion runs through the recent discussions on capital. There are those who speak of all capitalists as usurers that “exploit” the labour of their fellow-men while performing no service themselves: but those who regard the right of a man to keep what he has worked for as “the corner stone of all economy”\* should not deny the right of a man to keep what he has waited for. Take the first dozen men who pass Temple Bar and offer them their choice of a sovereign to-day or a guinea this day six months, and if any man undertook the risk and privation of waiting he would have fairly earned his reward. The new materialistic Economy tells us that the capitalist merely supplies money, that it is labour which imparts value to the objects, not dead money, which has only a conventional not intrinsic worth. To which we may reply, it is Patience which the capitalist exercises; what he supplies is the ability to wait for the results of labour: for this capacity of

\* Mr Ruskin.

waiting he claims his gains, and it is according to the anxiety involved that he is rewarded. If any movement render this reward doubtful the capitalist must have a greater inducement to make him wait in troublous times: a crusade against the "tyranny of capital" would frighten capitalists for a time at least, and compel them to seek better terms from the self-destroyed labourer: this would be no mere attempt at a better division of goods, but an attack on one of the fundamental requisites of production—the capacity for waiting.

Other writers see a danger, not in the greatness, but in the smallness of the capitalist's reward. They affirm that the rate of profits is diminishing, and assert that the time is at hand when no one will longer undertake the risk of waiting for such a small reward. The former part of this statement is undoubtedly true: so far as labour is expended on the soil, the rate of return for increased exertion is not proportionately greater: even in the manufacturing districts there is a reflection of the rural difficulties, in the greater price of coal and material, and only a diminished surplus can be appropriated as the reward of waiting. But there is an error in looking solely to the rate of profit obtainable, and not to other sides of the question as well. The truth seems to be that the capacity for waiting increases, in spite of the diminished reward; and in some cases of a diminished rate of profit, *e.g.*, when it is due to increased security, the capacity for waiting is not affected by it at all. However low the rate of profit may be, we are not near the "stationary state," so long as men are willing to save from their increase and add to their capital.

Again we are told that capital is being driven from the country by the action of Unions. They certainly may affect the rate of reward in one department of industry so seriously that capital will be withdrawn, but it need not necessarily lie idle. It will—so far as it can be realised—seek other employments, and so long as the capacity for saving survives, we need have no fear of inability to set labour in motion. The change in the rate of reward could not be a general one—certainly not a permanent one, unless there was a growth in the Skill of the proletariat, and consequently in their power of driving a bargain. With that change there would also have come an increased stock of wealth to be divided; nor, as long as we see that the capacity for waiting has survived the pressure of the diminishing return from land, need we fear that it would be destroyed by a re-adjustment of the rewards of Patience and Energy.

*Population.* The Currency offers a tempting field for discussion at present, but we must draw these remarks to a close with a brief allusion to another burning question. The law of popu-

lation grievously needs to be restated in the form in which it was first uttered by Malthus. He spoke of the evil of population increasing more rapidly than the means of subsistence. To-day we hear men talk of the increase of the human kind as if it were a positive evil; men enunciate doubtful physiological statements and more than doubtful moral doctrines as to the means of preventing this curse. In all this we have a narrow view of man, as a slave of his appetites and physical conditions. Is this so? Is it not rather true that there are boundless resources in human nature for the increase of Skill and Trust, the development and economising of Energy and Patience, and thus for the continued satisfying of human wants? The capacities of human nature may be developed so as to supply infinitely multiplied needs. It is not an increase of population that is an evil, but a disproportionate increase, and the cure for this evil lies, not in bowing to the limits at present set by climate and soil, but in developing those human powers—including that of self-control—by which men have hitherto succeeded in overcoming nature. If want increases more rapidly than resources do, misery must ensue; but the ratio may be altered in either of two ways, and the permanent remedy lies in developing the resources more rapidly, rather than in trying to suppress the wants.

W. CUNNINGHAM.

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## VIII.—CRITICAL NOTICES.

*Traité de la Nature Humaine* (Livre premier, ou 'De l'Entendement'), traduit pour la première fois, par MM. CH. RENOUVIER et F. PILLON, et *Essais Philosophiques sur l'Entendement* (traduction de Mérian corrigée). Avec une Introduction par M. F. PILLON. Paris: Au Bureau de la *Critique Philosophique*, 1878. Pp. lxxii., 581.

*Hume-Studien*. I. Zur Geschichte und Kritik des modernen Nominalismus. Von Dr. ALEXIUS MEINONG. Wien: Gerold's Sohn, 1877. Pp. 78.

THE revival of interest in Hume's philosophy is one of the most marked features in the thought of the present day. At home, though he never was put outside the philosophic pale (as foreign critics are rather prone to suppose), it is true that, since the generation of the Reids and Beatties and Campbells whom he so greatly exercised, he has seldom been either consciously followed or expressly opposed; and the more remarkable therefore is that new interest, variously begotten, which has resulted already in the edition of his philosophical works so elaborately prefaced by Prof. Green. Nor is the interest less signal abroad, as shown by the two works here thrown together, though they are only the latest among many similar evidences.

M. Pillon, in his striking Introduction, tells us plainly why he and his master, M. Renouvier, have joined to produce this first French translation of the work of Hume's youth. M. Renouvier's doctrine is not such a mere outgrowth from the Critical Philosophy as to be in relation with Hume's thought only through Kant. While holding fast by the "Apriorism" and all the ethical implications of the Kantian doctrine, M. Renouvier's philosophy is a system of pure phenomenism, and rejects the notion of Substance which Kant brought back in the guise of the noumenal thing-in-itself after it had been expelled by Hume. From Locke through Berkeley to Hume as well as Kant, and from Hume and Kant to M. Renouvier, in whom the differences of these two become reconciled,—lies, we are told, the progress of the critical idea in modern philosophy. This may be a somewhat exclusive reading of the post-Kantian movement, ignoring the not less remarkable phenomenism (upon a Kantian basis) of Mr Shadworth Hodgson, to say nothing of the similar doctrine struck out already in Kant's day by that acutest of his critics, the Jew Salomon Maimon, whose anticipation of his own thinking Mr Hodgson so generously acknowledges in his new work, *The Philosophy of Reflection*. But the succession has the merit of placing Hume in a light not more striking than true, and it adequately explains the anxiety of M. Renouvier and his able and indefatigable associate, M. Pillon, to make Hume known in France by that earlier and greater *Treatise of Human Nature*, which alone contains his critical doctrine of Substance. The relation between the *Treatise* and the later *Inquiry* (which very



soon passed into French as into other languages, to the gratification of Hume's whim that by it alone he should be judged) is on the whole very accurately conceived by M. Pillon; and, if he contends for the philosophical superiority of the earlier work, while asserting their general identity of spirit, he is careful to note also the occasional points where (as on the subject of psychological causality) the shorter *Inquiry* is more explicit. He omits, however, in this connexion all reference to the passages that serve to determine the extent of Kant's acquaintance with Hume, though nothing so nearly concerns his own view of Hume's importance in the general critical movement. If, as the internal, even more than the external, evidence seems to make sure, Kant knew nothing of the *Human Nature*, it was open to M. Pillon to urge that Kant lagged behind in respect of the doctrine of Substance, because he was ignorant of Hume's advance.\*

M. Pillon's criticism on Hume's philosophical doctrines is in general not less forcible than his exposition of these is admirably concise; but the justice of his view that "Sensationism" reached its final expression in Hume and stood self-convicted of insufficiency, depends on what meaning is given to that word. Hume did unquestionably carry to a legitimate conclusion Locke's statement of the sources of human knowledge, and, either failing to account for the plain facts of our intellectual consciousness or accounting for them only by a surreptitious assumption of other principles, may truly be said to have demonstrated the insufficiency of Experientialism as it was then understood. But it is not therefore clear that the alternative to "Sensationism" lay in such a system of "Apriorism" as Kant set in its place, and his followers, critical or criticist, would in different forms still maintain. The Experientialism now once more in the ascendant is neither that of Locke and Hume, nor, however allied in spirit, related to it in the way of affiliation. Appearing as the natural reflex of general scientific progress in the interval, it conceives the whole question of Knowledge in a larger way. It does not dream of tracing the

\* The internal evidence consists chiefly of the two points: (1) that Kant charges Hume with discussing the question of the validity of human knowledge not in its full generality, but upon the single issue of causation—which is true of the *Inquiry*; (2) that he declares Hume to have recognised only a logical necessity in mathematical cognition—which is again true of the *Inquiry*, but the *Inquiry* only. M. Pillon sets out the very different view of mathematical judgments to be found in the *Human Nature*, without remarking the curious change—being a reversion to Locke's position—that had taken place in Hume's mind as to this part of his doctrine before the *Inquiry* appeared. The *Human Nature* was not translated into German till 1790-1; the *Inquiry* was accessible to Kant in Sulzer's translation from 1755. (This last date is wrongly given as 1775 in the English translation of Ueberweg's *Geschichte*.)

Mr Sh. Hodgson, in the preface to his new work, p. 14, has some admirably pointed sentences on Hume, but appears to overlook the evidences just quoted when he says:—"The Hume that belongs to the history of philosophy, the Hume that roused Kant from his 'dogmatic slumber,' will always be best known to us from the *Treatise of Human Nature*."

growth of consciousness in the individual, psychologically, from the occurrence of a hap-hazard series of impressions passively received, or, philosophically, of making the individual's subjective experience the test of scientific truth. When M. Pillon contends against Hume for "categories, concepts, forms and laws of mind" or what not, in supplement to discrete sense-impressions, he puts only in one way what experientialists at the present day put in another when, besides crediting the individual with a personal activity, and besides allowing for inherited predispositions, they farther suppose a non-personal element of knowledge in the slowly developed social tradition of language, &c., moulding into common forms the product of each individual's reaction upon his incidental experience. And if it should be said that this amounts to an abandonment of the position to the adversary, the reply is that the rationalist has had gradually to abandon more and more of *his* pretensions from the time when experience was counted as nought towards the result of knowledge, till now he is left only with an assumption of barren forms which, though truly not explicable from individual experience, are there chiefly as a datum to be accounted for by reference to the slow deposit of experience in generation after generation. But, however it be with this question of principle, M. Pillon, it must be granted, follows his master M. Renouvier in giving something more than merely formal answers to the questions that occupy the modern psychological school, and there are several passages in this Introduction well deserving of close attention as examples of a remarkable, and as yet too little known, phase of contemporary thinking.

Hume's doctrine of Abstract Ideas (on which M. Pillon has some acute remarks) is selected by Dr. Meinong as the central subject of the first in a series of *Hume-Studies*, which he has begun to contribute to the *Proceedings of the Vienna Academy*. The doctrine, while set out in a very characteristic and important chapter of the *Human Nature*, is one of those that have no place in the *Inquiry*, and Dr. Meinong's view is that the question of the true relation of the two works can be brought to a settlement only by such an exhaustive scrutiny of their differential parts as he here begins. His tractate (published separately as above) has, however, also the more general character of a contribution to the history and criticism of Modern Nominalism. Thus, he enters somewhat minutely into Berkeley's theory of Abstract Ideas, with which Hume so expressly connects his own, and this of course carries him farther back to Locke, whom Berkeley expressly opposed. Then, although it seems to be his opinion that Hume omitted his earlier doctrine from the *Inquiry* because of its manifest imperfections, Dr. Meinong believes that he finds distinct traces of its influence on the views of later English psychologists. And he also includes, within his brief but closely-argued essay, an independent discussion of the question at issue.

In his critical exposition of the historically connected views of Locke, Berkeley and Hume, Dr. Meinong offers some fresh observa-

tions; as when he very neatly remarks on Locke's paradoxical statement as to the difficulty of forming the general idea of a triangle (which "must be neither oblique nor rectangle, neither equilateral, equicrural, nor scalenon, but all and none of these at once"), that it is based on a confusion of the extent with the content of a notion. It was against this and other statements of Locke's that Berkeley directed his famous protest so often cited as an enunciation of thoroughgoing Nominalism; but Dr. Meinong points out that in reality Berkeley lays no positive stress upon the function of language in generalisation, neither asserting that names alone are general (the true note of Nominalism according to Dr. Meinong) nor even maintaining that names are an indispensable help to conceiving, though it is true that on the one point of the use of language in symbolic thinking he goes to exceptional lengths. Hume, therefore, who does take his stand upon the generalising agency of language, was in error when he supposed that he was simply passing on and confirming the doctrine of Berkeley; and to him, rather than to Berkeley, says Dr. Meinong, should be assigned the name of the father of Modern Nominalism.

This last remark, in the connexion in which it is made by Dr. Meinong, is not without its justification. While Hume expressly declares that "a particular idea becomes general by being annexed to a general term, that is, to a term which from a customary conjunction has a relation to many other particular ideas and readily recalls them in imagination," Berkeley supposes generalisation to consist in the mere representation (suggestion) of a number of particular ideas on occasion of one, and takes representation by means of a name (which is itself a particular idea) to be only one case in which the principle applies, though it is that one which, according to him, has misled Locke and others into thinking that the mind has hold of properly abstract ideas in correspondence with the names. Dr. Meinong, however, is surely somewhat at fault, when upon that single ground he enthrones Hume in place of Berkeley and would have it that all later nominalists are what they are because of Hume's example. To say nothing, in the first instance, of an influence from Hobbes (who, before Locke, might be expected to figure in a historical view of Modern Nominalism), what real evidence is there that the thinkers who have come after Hume have been specially affected by his nominalistic utterances? Dr. Meinong refers but to four—the two Mills, Prof. Bain and M. Taine (whom, though a Frenchman, he very properly classes with the English succession). Now among these he finds the younger Mill to be in strictness more conceptualist than nominalist, but in any case to have held a view of abstraction and generalisation very different from Hume's. James Mill and, in one place, Prof. Bain, are found expressing opinions that have some affinity with parts of Hume's doctrine, but there is not the least proof of direct obligation in either case. Finally, of M. Taine, Dr. Meinong can only say (with questionable correctness) that his Nominalism goes farther than Hume's, and is of a type that hardly any thinker of

mark would now care to approve. There is in reality, so far as regards the Mills, much more evidence, both external and internal, of influence from Hobbes than from Hume, and the truth about the English thinkers generally is rather this, that from the days of Hobbes (to go no further back) they have all been nominalistic in spirit. Locke, despite his occasional lapses into ultra-conceptualism, is in the main almost ultra-nominalist, and this most probably in unacknowledged dependence on his predecessor. Berkeley, though most concerned to establish against Locke the individualised definiteness of mental representations, shows himself anything but oblivious of the haunting presence of language with every act of general intellection. Only if Nominalism is defined—with apparent sharpness but really without point—as meaning that nothing is general but names, can it be a question whether Berkeley and Locke are nominalists, and when it is so defined it may well be doubted whether Hume is in truth more nominalist than they. Nominalism would seem to be strictly enough understood when taken as the view according to which the mind is declared impotent to know generally, or to *conceive*, without the help of some system of definite particular marks and signs.

The outcome of Dr. Meinong's very careful inquiry as regards Hume in particular, is that he fails by not taking account of the intension of concepts and by seeking to explain their extension from association of ideas. Hume is supposed by Dr. Meinong to be the first who made Association a general principle of psychological science,\* and to have been misled into applying it without due discrimination. The principle, it is urged, cannot account for that aspect of the notion which is called its extension, because this, unlike the in-

\* M. Pillon, in a short paper entitled 'Quel est le véritable père de la psychologie associationiste?' (*La Critique Philosophique*, 27th Dec., 1877), makes a like claim for Hume, and blames Mill and others for ascribing so much importance to Hartley. Now it is true that Hume published his *Human Nature* eleven years before Hartley's *Observations on Man*, and Mill is clearly wrong in point of fact, when he says that Hartley "was the man of genius who first clearly discerned that the great fundamental law of the Association of Ideas is the key to the explanation of the more complex mental phenomena" (Pref. to his father's *Analysis*, 1869). But, on the other hand, there is every reason to suppose that Hartley, who so scrupulously makes his acknowledgments to Gay, borrowed nothing whatever from Hume; and Mill's very statement proves how much more potent Hartley's influence has been than Hume's upon the later associationists like himself. Everything, in fact, goes to show that Mill got his impulse through his father from Hartley and Hobbes, rather from Hume; while as for Associationism, its true origins are to be sought farther back than in Hume. Berkeley is implicitly a thoroughgoing associationist, and Locke himself, when he speaks (with still earlier sensationalists) of 'compounding,' has partial hold of the general principle of mental synthesis called later on, by Hume and others, Association of Ideas. (This last phrase, it has often been remarked, heads a chapter in Locke's Essay, but only with a quite special reference to the explanation of mental idiosyncracies in different people.)

tension, has no ideal fixity but is liable to vary indefinitely with real experience (p. 30). Perhaps I fail to apprehend Dr. Meinong's true meaning here; but if not, the observation does not seem very much in place. The fact that the extension is really indefinite is not inconsistent with the supposition that the concept became formed in the mind by a more or less definite association of particular resemblances or resembling objects. Nor, on the other hand, is the intension either so ideally fixed as to be practically unchangeable, or itself not amenable to Association (in this case 'contiguous'), whenever it involves a synthesis of a number of attributes found to be conjoined in experience. Hume's doctrine is imperfect in many ways as an account of the psychological formation of the concept, but its fault does not lie in the part assigned to Association (whether by similarity or contiguity). It fails chiefly by not carrying out that reference, begun by Berkeley, to the function of Attention, which is the positive factor in the act of Abstraction.

One word, before closing, on Dr. Meinong's valuable discussion of the material question. His solution of the various disputes as to the relation in knowledge between the General and Particular on the one hand and the Abstract and Concrete on the other is, in my judgment, essentially correct. There is no generalisation without abstraction, but abstraction is possible without generalisation. Abstracts may well be singular, and, whether singular or general, they are not confined to mere attributes of concrete objects. Generals are always abstract. Concretes are always individual or singular, but the knowledge of them includes only in each case such conjunction of attributes as directly impresses the senses. Individuals are mostly known in a form more or less abstract. These are a few of Dr. Meinong's positions, and the others to be found in his pages, though they do not exhaust the subject, make up a very important contribution to its scientific determination. In particular may be noted his criticism of the common dictum that extension and intension vary inversely—a dictum which, if it implies that all generals are abstract, no less implies that all abstracts are general. Dr. Meinong offers a better statement of the conditions under which the dictum is applicable than is to be found, I think, in any of the books. His *Hume-Studies*, if they may be judged by the first of them, promise to be deserving of all attention.

EDITOR.

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*Die Forschung nach der Materie.* Von JOHANNES HUBER. München : Ackermann, 1877. Pp. 109.

HERR HUBER's essay, which though small in compass is a most weighty contribution to the question of sense-perception, opens with a rapid sketch of theories of matter. The modern semi-physiological view of perception which limits our knowledge of matter to the states of sense-consciousness produced by vibrations from the external world, is stated with particular care, as in it the author finds the special

deficiency which it is the object of his work to supply. It is clear, he points out, that if we are absolutely confined to the changes of sense-consciousness, we can through them attain no knowledge of what lies beyond and gives rise to them. Either then by thought we obtain a knowledge of things, in which case the independent existence of thought must needs be granted, or the doctrine which professes to explain the content of consciousness from mechanical movements must be acknowledged to be entirely without scientific basis. It is well, we think, to lay stress upon this dilemma, for we are too much accustomed to find consciousness explained with the one hand as the result of external action, while with a dexterous turn of the other hand external facts are transformed into conscious states.

Accepting, then, as his stand-point, the existence of Thought distinct from the states of sense-consciousness, Huber proceeds to analyse more carefully what is really involved in Perception, or cognition of external fact. The two forms of perception, Space and Time, he examines historically and critically, with the conclusion that both are phenomenal or subjective but rest upon or correspond to certain real relations. Thus Space is the mode in which the co-existing manifold of sensation is grouped or reduced to the unity of consciousness. It therefore depends upon a real multiplicity or plurality of real objects, which determine the manifold of sensation, and involves the unity of self-consciousness. Similarly Time is the mode in which are grouped successive changes in states of consciousness; without the representation of continuity in the series of mental states, we could have no knowledge whatsoever of any one of them. As with space, it rests upon an objective fact—change or motion in real things, and involves the unity of the thinking subject.

The existence in us of these two phenomenal modes of representing the real proves the existence of a multiplicity of things external to us. How are such things to be thought? As Forces, or Causes: for the only function we have yet ascribed to them is that of giving rise to or causing sensations. In themselves spaceless and timeless, the atoms in reciprocal action give rise to those primary mechanical relations which are the fundamental notions of physical science. But it is apparent that the mechanical view which explains all phenomena by reference to change of position in space can by itself yield no ultimate explanation of its own principles. We are driven to regard mechanical causality as secondary in nature—as a consequence of the original form or properties of the world of atoms. Further, no purely mechanical interpretation is possible of qualitative differences, or of the movements of living and thinking beings. Changes in the inner condition of the atoms are incomprehensible as alteration of space-relations, for the atom is unextended. We must, in order to reach a final explanation, ascribe to these atoms psychological characteristics; we must think them as monads. The properties which physical science ascribes to the ultimate elements of matter, such as extension, elasticity, inertia, &c., cannot belong to these elements in themselves: they are but the modes under which the reciprocal actions of the monads

appear to sense. The inner side of action is a psychical process; only the outer takes on a mechanical form. Matter, then, is only a phenomenon of our sense-consciousness, and it is critical reflection upon this phenomenon that leads to the assertion of the existence of immaterial atoms or monads. The reality of these assumed causes is guaranteed by the validity of the thinking process which affirms them.

But the phenomenal reality is conditioned by the reciprocal action of the atoms, and as no mechanical explanation of this action is possible, it must be ascribed to the inner tendency of the monads themselves. Causality is immanent in them, because each forms part of a whole, is incomplete in itself, and strives after the complement of its existence. Mechanical attraction, chemical affinity, and animal desire are essentially the same—efforts towards completion, towards restoration of the higher unity of which the individual is a part, and through which it comes to full being. Behind matter then, which is only a sense-phenomenon, there lie psychical processes of which it is the external manifestation. The material and the psychical are but two sides of the same reality, differing in their mode of appearing.

To many thinkers such a view of reality seems to involve rejection of natural law. How can there be regular, constant connexion of phenomena, when these are due to psychical forces? To this Huber answers by first pointing out that regularity or conformity to law in the phenomenal world rests upon the supposition of fixity in the number, quality and relations of the primitive monads. But these monads do not furnish an explanation of their own being; we are driven to postulate a unity of principle out of which they have sprung, and this fundamental unity must be in its nature psychical. The primitive soul (*Urseele*) cannot be conceived as immanent in the monads, nor can the monads be regarded as originating by the self-diremption of the primitive monad. The production of the monads must then be ascribed to a creative act, by which the uncreated monad gives rise to the many and still retains its own unique being. But such a productive act can only be the work of thought, of soul as thinking, *voûe*. The ultimate principle, then, to which our logical thinking conducts us, is the absolute spirit, self-determining and all-creative. "Our reason, to which in the course of its researches the universe first appeared as a huge mechanism of inanimate atoms, then as the reciprocal action of intimately connected elements, then as the organic complex of animated (*beseelter*) members or monads, finds ultimately, as the principle of mechanism, chemism and psychical organism, Thought, which as original is not, like human thinking, limited to reflection upon what is already given, but must be regarded as absolutely self-determining and productive" (p. 109).

It will be seen that Herr Huber's essay is one of the most vigorous statements of a view already familiar to philosophy, and now finding its way into the realm of natural science. We should have been glad to have had from the author a more particular examination of the part played by thought in reflecting upon the phenomena of sense-consciousness. Despite all that has been written upon the principle



of causality, we cannot think that the difficulties connected with it have been so cleared up as to permit us without further question to apply the principle to determine the existence of objects confessedly not given either in time or space. The reasoning by which space is shown to involve multiplicity of reals seems also to want further explanation. That the intuition of space involves intuition of a manifold is evident; that this manifold is itself not in space, and that the space-manifold must be due to a real multiplicity not in space, are propositions by no means self-evident. Temporal simultaneity of sensations is not, we must consider, sufficient ground for representation of these as in space.

There remains, too, the difficulty which is peculiar to all monistic schemes. They do not render any explanation of the acknowledged difference in kind between material and psychical. It is hardly sufficient to say that these are but diverse modes of appearance of the same unity, for the diversity of appearance is exactly the diversity in need of explanation.

Minor difficulties remain in plenty: *e.g.*, the principle that as each monad is part of a whole it is incomplete and strives after full being, cannot be at once accepted; but without dwelling on these, we may conclude by recommending the essay to the attention of all who are interested in the present remarkable *rapprochement* between physics and metaphysics.

ROBERT ADAMSON.

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## IX.—REPORTS.

### AN INFANT'S PROGRESS IN LANGUAGE.

THE following notes were made in humble following of Mr. Darwin's and M. Taine's example, at first for my own amusement and without any distinct purpose of letting them go further. I found, however, that they grew under my hands, and that the Editor of *MIND* thought further contributions on the subject of children's mental growth would be desirable. Here I have kept in the main to the one point of language, and though I have probably omitted much, I think I have set down nothing as fact which has not been actually and distinctly observed. Exact dates I have not attempted to give, conceiving that they would be of no use unless for the comparison of a very large number of observations. Children differ so much in forwardness that the time of particular acquisitions seems of little importance as compared with their order. Though I have no pretensions to skill in phonetics, I thought it at least desirable to use some consistent notation for the sounds actually produced. For this purpose I have taken the Indian Government system, with a few additional signs which will speak for themselves. I may explain that in this notation, while *á*, *í*, are the long Continental *a* and *i*, unaccented *a* is not the short

Continental *a*, but the obscure or neutral vowel (*Urvocal*) heard in English "at," "that," "but," when not emphatic; when strongly given, it becomes the full sound of *u* in emphasised "but". Thus the Punjaub, Lucknow, Kurrachee, of popular use become in the official spelling *Panjáb, Lakhnau, Karachi*. "Governor and Company" would be written *Gavarnar and Kampani*. The vowel-sound in "bank," which does not occur in Indian languages, could be expressed only by some special symbol. I use *á* for the broad sound of *a* in "fall". Words in italics are in the Indian Government spelling. Words between inverted commas are in ordinary English spelling.

Age, 12 months. *M-m* often repeated; *Bá bá* repeated an indefinite number of times.

*M-m* generally indicated a want of something. *Bá bá* was (1) a sort of general demonstrative, standing for the child herself, other people, or the cat (I do not think she applied it to inanimate objects); (2) an interjection expressing satisfaction. Both sounds, however, seemed often to be made without distinct intention, as mere exercise of the vocal organs.

13 m. *Dá dá*; *Wa wa* (water, drink); *Wah wah*, with a guttural sound distinct from the foregoing (dog, cat); *Ná ná* (nurse—of course as proper, not generic name).

*Dá dá* was at first a vague demonstrative. I noted, however, with a query, man as a second and specialised meaning. About six weeks later it became a distinct proper name for the child's father, and has been consistently so used ever since. By this time the significance of pictures was in a general way understood. The child said *wah wah* to figures of animals, and attempted to smell at trees in the illustrations of the *Graphic*. (Six months later she pretends to feed the dogs in a picture.) The fact is curious, having regard to the inability of adult savages, as reported by many travellers, to make anything of even the simplest representations of objects. About this time the ticking of a watch gave great pleasure, and for some months afterwards the child constantly begged to have one put to her ear, or still better, to have it in her hand and put it there for herself. Five or six months later she had left off asking for it.

15 m. *M-m* discontinued. Sometimes *bá bá* used instead; sometimes she simply cried for a desired object.

Imitative sounds to represent dog, cat, sheep, ticking of clock. *Wah wah, miau*, soon became generic names of dog and cat (*wah wah*, which at first included cat, becoming appropriated to dog). I think, however, *wah wah* would include any middling-sized quadruped other than a cat or a sheep. As to cat, her name for it became a few months later *aya-m* or *ayá-m*, which so far as I know she invented for herself. The conventional "gee gee" for horse was very soon understood by her, though she could not form the *j* sound. She

recognised a zebra in a picture alphabet as "gee gee," and showed marked dissent when told it was a zebra.

These imitative sounds were all learnt on the suggestion of adults, but studied from the real sounds; for as made by the child they are decidedly nearer to the real sounds than the *baa baa*, &c., used by adult voices.

"Baby" (or rather *bé bi*). This word was now formed with fair success, but soon dropped for a time. About a month afterwards it was resumed, and became the child's name for herself. This was long before she attempted any other dissyllable. It was pronounced, however, rather as a reduplicated monosyllable.

16 m. *Bá* (ball), sometimes *ba*. *Tá* (1, thanks; 2, take, when offering something): this was deliberately taught her.

Playing with a ball became a favourite amusement at this time. She would throw a ball out of window and expect it to be returned. When we tried a regular game of ball she seemed to think the point of the game was to get possession of the ball and keep it. A certain capacity for dramatic play was now first observed. The child knew the various animals in a toy menagerie by name, and would make believe to feed them with a spoon. About a month later she was taught a piece of rudimentary drama. The picture of the "little boy that cries in the lane" and gets no wool had fixed her attention in a book of nursery rhymes, by this time constantly in hand, and now, on being asked, What does the little boy that cries in the lane do? she puts up her hands to her eyes and whimpers. She laughs afterwards, which I think is fair evidence that she understands the performance and considers it a good joke.

17 m. *Ní* (knee). This is a real word used in a special, and at the same time extended, meaning. It signifies: *Take me on your knee and show me pictures*; and also expresses in a general way the idea of something (generally the cat) being on a person's lap, so that *ní* not unfrequently means: *I want to see the cat on your lap*. She also puts a toy dog on her knee and repeats *ní* several times with great satisfaction. About this time "baby" came to be freely used as an imperative or desiderative, combined with movements or gestures indicating an object—the sense being, *I want that*.

17-18 m. *Má má*, mother. I have no note of when this word began to be used (probably it was some months before this), but it was well established by this time at latest.

*Ná ní* or *ná ní* (granny).

*Pí* (please). On learning to say "please" in this fashion the child left off putting her hands together to ask for things, which she had been taught to do before she could speak.

*Pé pé*, pencil (only once heard).

*Pá pá*. This was taught her as a synonym for *dí dá*, but she would not use it. Both "paper" and "pepper" (as common objects

at the breakfast table) became in her mouth something not easily distinguished from *pá pá*. This may perhaps account for her unwillingness to take up the new name.

*Ba* or *bö*, book.

"More," or rather *má*, often prolonged to *má-a* or *mo-a*—to ask for more of some food, &c., or to ask for any action that pleased her to be repeated. This word enabled her to form an approach to a sentence: thus *má . . . mú mú* ("more, mama").

*Tá tá* (taught her as the usual baby word for good-bye, but extended by herself); always distinguished from the single *tá* noted above. *Tá tá* not only is used to say good-bye, but expresses the general idea of going out of doors. Thus she says *tá tá* to her perambulator, and on seeing one take up a hat or overcoat.

A final nasal sound is now produced: she tries to say "down," what she does say being roughly *dúō*—take me down from my chair—a very frequent request, as she can by this time walk easily, and is fond of running about the room.

The vocabulary is now increasing fast, and almost any word proposed to the child is imitated with some real effort at correctness. The range of articulate sounds is still very limited: *a, á, i* (short and long) are the only vowels fully under command; *á* occurs in a few words, and is the usual result of attempts to form *o*: thus, *ná*—nose. The long sound of English *i* (*ai*) cannot be pronounced; when she tries to imitate it she says *úú* or *í-a*. No approach is yet made to the peculiar English short sound of *a* in such words as hat, bat. Of consonants *g, l, r* (the true consonant initial sound; the final semi-vowel, as in more, poor, is easy enough to her), and sibilants, aspirates, and palatals are not yet mastered. "Guy" (a younger cousin's name) is called *dí*, or perhaps rather *dá*, the *d* or *ɖ* produced far back and apparently with effort; *k* is also produced far back in the mouth, with an approach to *t*. Final consonants are seldom or never given, and the vocabulary is essentially monosyllabic, the only exceptions being in the nature of proper names ("baby," *ná-ni, ná-ná*), and even these are reduplicated monosyllables rather than dissyllables proper. She once said "lady" pretty well, but did not take it into use. No construction is yet attempted; the first approach to a sentence above noted has not been repeated. Even with these resources the child already contrives to express a good deal, filling up the meaning of her syllables with a great variety of tone, and also with inarticulate interjections. Impatience, satisfaction, disappointment, amusement, are all very well marked; and perhaps even intellectual dissent (in the case of "zebra" and "gee-gee," see above).

After this time (*viz.*, her 18th birthday, reckoning birthdays by calendar months, as for this purpose is convenient), the child's progress became much more rapid, and it would not have been possible to take down all her new words without giving much more and more continuous attention than I had at my disposal. I also doubt if anything would have been gained by it. The subsequent notes must be taken as being rather selections than a full record.

18-19 m. "Poor" (should perhaps have been set down earlier): no appreciable difference from ordinary adult pronunciation. *Dam* (gum), a word of large significance; see next paragraph.

"Poor" was taught as an expression of pity, but extended to mean any kind of loss, damage, or imperfection in an object, real or supposed. Some of her reasons for assuming imperfection were curious. She said "poor" to the mustard-pot and spoon, taking, as we suppose, the moveable spoon for a broken part. "Gum," on the other hand, with which toys are often mended, is conceived as a universal remedy for things broken or disabled. Later (at 22½ months) she says "poor" to a crooked pin, and on my beginning to straighten it, "dada mend".

The sound of *g* is now coming, and a final nasal is developed. "Down" is pretty well pronounced. *Ding* = dinner—not the meal or meal-time, but a toy dinner service.

*Bé bé* = biscuit, with desiderative-imperative tone and meaning.

19 m. *O* sound now distinctly made, and *g* distinct by the end of the month. "Guy" is now *gá* instead of *dá*. A final *l* once or twice observed: *éál* = shawl. Final *t* distinctly made: *hat* or *höt* (hot). Soon afterwards *p* (in "top" pronounced *tap* or *töp*); *pu* = foot; after mastering final *t* she said *fat*. The monosyllabic form (one consonant and one vowel) still prevails. *K* is a favourite sound, and she has several words formed with it which are carefully kept distinct. *Ku* = stool. *Kah* (later *kad*) = cod [liver oil], which she considers a treat. *Ko* = "cosy" (ontapot); later *ka-zi* or *ku-zi*. *Ká* = cold. *Ká ká* = chocolate. *Khi-en* or *kli-en* = clean; her first real dissyllable, for so she pronounced it. *Bè* for biscuit has now become *bek*. *Sh'ad* (thread). She has now observed the process of sewing, and tries to imitate it. Things broken, etc., are now divided into those which are to be mended with *dam* and those which are to be mended with *sh'ad*. Approach to *chu* (sugar) and *shu* (shoe, also sugar) sometimes quite distinct. I also note "jar" as well said, but *s*, *sh*, *ch*, *j*, are on the whole indistinct, and attempts to form them give curious palatal and sibilant sounds which I cannot write down. *W*, *v*, *f*, are now formed, but not well distinguished. *Vák* or *wák* = walk, *fák* = fork. Here also we get intermediate sounds. The *w* is often more German than English, though she cannot have heard the German *w* spoken.

The fork is a toy fork in the set of things generally called *díng* or *dín*. But *fák* has another unexpected meaning. The child likes to look at an old illustrated edition of Dr. Watts's poems, and she has turned "Watts" also into *fák*. It is possible, as M. Taine suggests, that to her there is some shade of difference in the sounds which escapes adult ears. At 20 months 25 days she said *vats* or *váte*. "Walk" has its proper sense as a mode of motion, opposed to riding, in perambulator, for herself or in carriage for others. She is much interested in watching callers going away, and says to them *dýi dýi* or *zhi zhi* (gee-gee) . . . *wák*, as if to ask how they mean to go; or perhaps merely to show her knowledge. Sometimes she begins to say *tá tá* to

a visitor, not that she is tired of his or her presence, but that she wants the amusement of seeing the departure.

She has learnt to repeat *no no* after she has been told not to do something, as an act of assent to the prohibition, and she seems to take pleasure in saying *no no* to the cat.

20 m. *Dash* or *dāsh* = dust. *Ta'sh* or *tā'sh*, learnt, I think, from "touch," one day repeated several times without assignable meaning, and then dropped. *Tāsh*, however, is adopted for (mous)tache. N.B.—Final sibilants are more under command than initial. Final *g* now produced: *geg* = fizgig (toy so called).

At this time a sudden advance was made to dissyllables. Several words were produced with success on or about the same day: "Fanny, honey, money" (these two learnt from the rhyme of "Sing a song of sixpence"), very distinct. "Money," however, seems to be confused with "moon": when told to say moon she says money. Others are attempted with more or less success: as *já-wá*, flower; *lu-ta*, letter; *ha-pi*, happy (taught her as opposite of "poor," but I doubt if she sees the meaning. She has taken up *ha-pi* to stand for "empty," which we tried to teach her, and in that sense uses it without prompting.) *Bá-ta*, butter. The child's own name, Alice, is given as *A-si*, or perhaps *A-si* (later *á-si*). As to sound, she is now acquiring the English long sound of *i* (*ai*). *R* is still impracticable, and attempts to form it sometimes give *d* (but this was very transient, and *l* soon became the common substitute): compare the converse Bengalese treatment of Skr. *ḍ*, which I believe is in Bengal regularly pronounced as *r*. "Pram," for perambulator, becomes *thlam*: the *th*, with an extra aspiration, almost *χθ*. A few weeks later this was simplified into *khlam*. There seems to be a difficulty about initial vowels: "egg" becomes *lleg* (or perhaps *yleg* would be nearer), which I can only write symbolically: the sound marked as *ll* or *yl* is something like the Spanish *ll* with an aspiration. A few days later the initial sound was more sibilant and less vocal, say (symbolically) *zhy*.

Early in March (at 20 months) we noted the first attempt at sustained conversation. The child was looking, or pretending to look, for a lost object on the floor. We told her she would get her hands dirty. On this she exclaimed, in a tone of dissenting interrogation, "Dirty!" (*da-ti*), and then, after looking at her hands, holding them out to us, and with triumphant affirmation, "Clean!" (*kle'n*). Here we have not merely vocal signs, but intercourse by speech—one may say an elementary form of repartee and argument. She can now say "yes" (*es*, or *is*, sometimes *as*) and "no" in answer to questions with fair intelligence, though she sometimes answers at random, and sometimes gives the wrong answer on purpose for a joke. One of her new words is *fa-ni* (funny), which she uses in a wider sense than adults, for anything that pleases and surprises her. The imitative name for the cat is dropped, and she now says (for "pussy") *pi-si* (*ü* as in South German, coming very near to *i*). "Funny" is also used to disguise fear, e.g., on being introduced to a strange dog. When left to play

alone she talks to herself constantly. The staple of one of these monologues (Mar. 10) was *á-díd* (formed on "O dear"). I half suspect a dramatic intention in her proceedings.

The peculiar short sound of English *a* (represented by *æ* in Mr Ellis' general notation) is now forming. She can say "bag" nearly like an adult. But as a rule she still substitutes (Indian) *a* or *á*, saying, e.g., "cub," or "kahb," for "cab".

21 m. Progress is now less marked and rapid. New words continue to be acquired, but the power of putting them together does not seem to increase much. The child is, however, now more or less able to answer direct as distinguished from leading questions. Thus, when she had been paying a visit to some relations and cried to go home, she gave afterwards (Mar. 17) a pretty connected account of it in monosyllabic answers. Q.: What did you do to-day at ———?—A.: *Klai* ("cry"). Q.: And what did you cry for?—A.: *Ham* ("home," i.e., I cried to go home). Also, when told not to handle a forbidden object, such as a knife, she will say, in a tone of intelligent acquiescence: *no—dá dá* (i.e., I may not have that, but *dá dá* may). One trisyllable is in common use: *Tenisi* = Tennyson, an illustrated edition, which divides her attention with *Vats* (Watts).

As to sounds, *r* is generally replaced by *l*, or *ll*, or (approximately) *hl*: *hlan* or *llan* = "run". The prosthetic initial sound for words beginning with vowels is now *zh*, or an aspirated *y*.

She begins, too, to put now and then a substantive and adjective together: "clever baby," "happy man" (in picture); the meaning of which she now seems to understand well enough.

21½ m. There is now a distinct advance in constructive power. Substantives and adjectives are freely put together (e.g., "dirty boots"), and I have noted one instance of the use of a real predicate so as to form a complete proposition. The child had been told, half in joke, that cabs were dirty as compared with her perambulator. For some days she had been accustomed to say "dirty" on the mention of cab, "clean" on the mention of perambulator. Now she made the whole statement for herself: *Kábz dati klam\* klín* ("cabs dirty, peramb clean"). She still talks constantly to herself, and with a continuity giving more or less evidence of continuous trains of thought. I am informed of dramatic conversations with her doll, such as pretending to make it look at things, and describing them to it.

The doll furnishes an illustration of the process of making generic names. A doll was named "Bessie," in honour of the donor: some time afterwards another doll was given by another person. The child insisted on calling this "Bessie," too. She does not seem to feel the want of a specific distinction between the two dolls: when she does wish to speak of one as distinct from the other she says "other Bessie".

\* Simple *k* is now substituted for the initial *kh* in this word; which again, as noted above, had replaced a more complicated aspirate sound.



In like manner, *bet* (bacon) is used with a generalised meaning, nearly = *ôψov*, to denote any dish that appears at breakfast.

22 m. Vocabulary and power of expression are gradually and steadily extending. A certain number of the words called symbolic by some recent philologists have been mastered: "now," "there," "other," or "nother," are in constant use; the child often says "there it is" (in the compendious form, *zhdtis*), and almost always adds "now" to the statement of anything she wants (e.g., "Bring—cake—now"). "Again" is also in use, though not quite so much. The following approach to a complex sentence is reported: "Out—pull—baby—pees" (spectacles). Simpler combinations are freely used: subject and verb, as "run away man"; or, subject, verb, and *régime*, as "mama get Bessie". The sense is generally optative or imperative, but sometimes indicative. She often says *es es* (yes) to emphasise her demands, as: "Es es—baby's book there".

Articulation is firmer, and very distinct. She says "good-bye" better than most adults, but making two separate words of it, and dwelling strongly on the "good". The vowel-range is increased, but *a*, *á* are still favourite sounds. Of consonants *ch*, *j*, and *th* (both sounds) are still imperfect (*th* hard mostly becomes *s*, *th* soft, *z*), and consonantal *r* is not yet formed at all.

At 22 months 1 day, a real verbal inflexion was used. She said of a younger child, "naughty baby"; and being asked why it was naughty answered without hesitation: *Klaid* (cried). That she appreciates the general force of the inflexion is shown about a week later by her using "comed" for the participle "come".

At 22 months 10 days, a sentence is noted *ex relatione*, containing not only a direct but an indirect *régime*; "Annie—gave—baby—sugar"; and again, a day or two later, "Dada give *bâtá* (butter, i.e., bread and butter) baby". Talk to the doll is now very common, as: "Bessie look," "Bessie walk away": sometimes the child repeats to the doll what has been said to her by elders. She also puts the doll to bed, takes it out for a walk and brings it home, etc. On one occasion she scolded it for two or three minutes, saying "naughty Bessie" with much gravity. We could not discover what the supposed offence was. I may observe on this that I have no reason to doubt that all the play with her doll is purely and consciously dramatic, not animistic; in other words, I have seen nothing to indicate a belief that the doll is really alive, nor is there, so far as I can observe, any tendency to attribute life to other inanimate objects. I think the child is perfectly aware of the difference between animals and things, though I am unable to give specific reasons for this impression. "Again" is now used to strengthen "more": when she wants anything repeated she says "more 'gain". The following is an actual short conversation, on seeing an ivory ring spun teetotum-wise: "Baby do't. . . [after failure to make it spin herself] more 'gain. . . . ma-ma 'gain. . . . ma-ma do't. . . . [then turning to another object of interest] . . baby's *báts* (basket) . . ma-ma, take off 'cover".

Command of general and symbolic language continues to make almost daily progress. *Zât sing* (that thing) is now used to call attention to any desired object the name of which has not been mastered.

At 22½ months, besides the dramatic play with the doll, we have now some quasi-dramatic imitation of grown-up people's action. For some time the child has been accustomed to bring the newspaper to the breakfast table, and she always pretends to read it herself before handing it over. To-day, seeing her mother writing, she scratched the paper with a dry pen, saying, "Baby *lait* (write) ma-ma's letter".

23 m. Fluency and command of language increase. We note the first appearance of a *question*, viz.: "Where's pussy? baby look up 'tairs."

The palatals, dental aspirates, and the peculiar English short *a* (as in "hat") are still imperfect, and *r* is represented by *l*. When *s* comes before another consonant, one of the two is dropped. *K* is in some words confused with *p* or *t*. She says "oken" for "open," "kek" for "take".

The child takes pleasure in quasi-dramatic games and actions with her parents as well as with her doll. Sometimes, when saying good-night, she pretends to refuse a kiss and lets me make a *fausse sortie*, as if annoyed or indifferent, and then calls "dada come back" (or "comed," for she uses this form for present and past indiscriminately, which compels me to set a lower value on her appreciation of inflexions), and gives the kiss after all. (At 23½ months, however, she uses "made" correctly.) I think she considers the thing a joke, but not without a shade of fear that it may be taken seriously. The last time, she completed the performance by saying "goody girl" in a tone of extreme self-complacency.

Seeing lines of dots on a printed page, thus . . . . (in a table of contents), she said, "Oh! pins," and made repeated attempts to pick them out. This would seem to have some bearing, however slight, on the gradual character of the process by which our vision of solid objects and perceptions of things as in three dimensions, is acquired.

She now has a settled formula to ask for things she wants, and also to express acquiescence when told she is not to have them, e.g., "baby have *pápá* (pepper)", "baby have *pápá* no." The "no" is not given as it would be by an adult, as a distinct exclamation following a pause. There is no stop and no raising of the voice. When she is impatient, "baby have, baby have, baby have," is rapidly repeated. She is very persistent in trying to get a desired object, and if she cannot have it at once does not give it up, but proceeds to make the best terms she can; e.g., she asks for bacon, and is told it is not for her, but her parents must have it first. She answers, "then baby have bacon". Here is an elementary notion of bargain and compromise. The child is already *πολιτικὸν ζῶον*.

Bacon has lost its former generality, meats which appear at breakfast being now divided into egg, bacon, *sis* (fish), and beef. Once, after calling a new dish "bacon," and being corrected, she said "bacon

no"—recognising, one may say, the logical division into bacon and not-bacon. The child is now able, however, to take up new words very quickly. She has reached, so far as concerns the names of things, the advanced stage of knowledge in which the provisional character of generalisations is recognised.

At about 23 months 10 days she cried violently on finding that her doll's head was coming off, and was pacified only when it was put out of sight with a promise that it should be mended. Her own report of the cause of her grief was "Bessie's head poor". The dramatic personification of the doll may probably count for something in this. But one is not strictly entitled to assume that she would cry less for damage to any other toy.

There are increasing signs of a desire to find explanations. Seeing in an illustrated advertisement a device of a griffin rampant supporting a kind of banner, the child invented a meaning of her own for it: "pussy ling (ring) bell". The figure of a man making pottery, which was part of the same advertisement, became "man open door," so as to form a single composition with the griffin. On hearing sounds in the street, knocks at the door, &c., the child readily (and as a rule spontaneously) assigns causes for them, saying "band," "organ," "man," "post," &c., as the case may be. Strange sounds, and at times sounds of a known class coming from an unfamiliar direction, appear to frighten her.

I should add that the greater part of these notes was already written before I saw M. Bernard Perez' very interesting book, *Les trois premières années de l'Enfant* (Paris 1878). I have retouched and rearranged them as little as possible, preferring the certainty of leaving them in an inartificial state to the risk of spoiling by manipulation whatever value they may possess as records made at the time.

F. POLLOCK.

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*Note-Deafness.*—As a sufferer from the infirmity discussed by Mr. Grant Allen in the last number of MIND, I have read his suggestions as to its cause with much interest, and subjoin a few particulars for comparison with the case he has described. The writer's parents were both of average musical capacity, with constitutional tendency to deafness on one side. Two brothers with at least average hearing for ordinary sounds, are altogether wanting musically. As a child the writer was frequently treated for deafness; at three-and-twenty enlarged tonsils were removed, since when attacks of deafness have been rare, and always consequent on a cold. This, so far as it goes, tends to connect insensibility to quality of sound with defective sensibility to quantity—unlike Mr. Grant Allen's case, where the hearing was more than ordinarily acute. Like his subject, the writer is conscious of the difference between a full rich tone and the reverse; but finds music at its best only a pleasant noise, and the wailing of an Æolian harp as significant as an elaborate melody. The tone of different bells is also scarcely distinguishable. The defect was naturally dis-

covered at an early age in the process of "learning music". Operatic airs played through by note—and even learnt by heart—might be strummed in the very same arrangement by half-a-dozen schoolgirls without leaving any mental impression of the sound or sense of the air; this would be recognised, if at all, by extra-musical considerations, such as the relative position of a shake or a run or rest. In playing from memory the ear gave absolutely no help: there was some recollection of the printed notes, but for the most part it was an affair of physical association between different movements of the fingers. At the same time, the attempt to distinguish the sound of different chords, after a painful effort of attention, always ended in a random guess. No interval less than a fifth can be distinguished with any degree of certainty, and even in the case of greater intervals the ear is easily misled by added volume, or force in striking the higher note. The theory of music or "thorough bass," taught not very scientifically, threw no light on the darkness, the writer composing chords and sequences by rule, and failing altogether to apprehend how other pupils either struck out the exercise at once on the piano, or at least verified and corrected by ear what they had written by rule. By contrast with the complete absence of the sense of tune, the sense of time seems fully developed, though it is probably not above the average, and does not include a very correct ear for metre or quantity in verse. Regard for other people's ears prevented any attempts at singing, and the writer is conscious of complete inability to go up or down the scale in an orderly manner; nevertheless, there is a dim sense of difference between singing in harmony with other people, and singing out of relation to them. The feeling bears no resemblance to the musical perception of a discord; it is vague, and—unscientific as such a description may seem—rather suggests an affection of the muscular than the auditory sense. Not to make too much of the matter, if anyone else were singing a correct second, the writer has an impression (which may be unfounded) that she would be conscious of any failure to keep in unison. It is a question, however, whether this consciousness might not be rather connected with the more or less disciplined movements of the throat than with aural perceptions (*cf.* the feeling of "keeping step"). As to the alternative explanations offered by Mr. Allen—ataxy of the nervous centres and malformation of Corti's organs—the writer has always instinctively inclined towards the former; the only difficulty alleged is that of explaining the indifference of the note-deaf to a discord, and this hardly seems greater on one hypothesis than on the other. We know that the *cause* of a discord is such or such interruption of an orderly series of vibrations; but is not the *sense* of discord rather that of a jar or grate than of an interruption? An ear that does not perceive the natural harmony of congruous vibrations must fail, by the same incapacity, to discern the harshness of incongruous combinations; it receives the sound without apprehending its special qualities. It is hard to say whether note-deafness most resembles colour-blindness or short-sight; a short-sighted person sees a blurred outline vaguely filled in, where to sounder organs

there appear a number of sharply-defined details. Similarly the note-deaf hear a succession of sounds, *within which* a number of related gradations are apparent to normal ears; but here the analogy stops, for it certainly appears that the distinction between a scale and a symphony is as special as that between green and yellow. Perhaps it would be worth while, from this point of view, to try the effect of an ear-trumpet or microphone, so as to ascertain whether the differences between a magnified third and a magnified fifth was more perceptible than that between ordinary sounds. It is to be hoped that the progress of science may suggest some mode of vivisection which may throw light on these interesting questions; but if the present high degree of musical sensibility is a development, and the primitive savage as insensible to musical intervals as Mr. Allen's subject and the present writer, it would probably be agreed that the change is more likely to have taken place in the elaboration of nervous sensibility than in the physical structure of the ear.

EDITH SIMCOX.

In the *Scottish Musical Times* for June 1878, after some extracts from my article on 'Note-Deafness' in the April number of *MIND*, a case somewhat similar to that of Miss Simcox is given in detail, from which the following passages are extracted. The person referred to, a pupil of the editor of the paper, thus describes her own auditory powers:—

"If a note be struck on the piano I cannot tell which one it is, nor do I know the difference in sound of one note from another. I never recognise a tune either in singing or playing. If any one played a tune which I had been practising for ever so long, I should not know it. When practising, I do not know whether I am playing in tune or not, nor do I notice wrong notes unless they make a horrible discord. I am fond of listening to music for a reasonable length of time, but would tire sooner than most people."

To this account the editor adds the following remarks, among others:—

"We have personally tested this young lady's musical capabilities, and can safely assert that, so far as discrimination is concerned, she gives a moderately accurate account of herself. . . . She plays the piano as well as most pupils who have studied in the popular way for two, three, or even four years; and she reads much more easily than the average of such pupils. . . . Having explained the production of voice in singing, we directed that long notes should be practised. After five or six lessons the result has been as follows:—She has succeeded in singing the notes *C*, *D*, and *E* sometimes in accurate tune, but never to be relied upon. After various experiments we find that these are the notes upon which the voice is used in speaking. Our pupil cannot say that the notes of a perfect fifth or an octave are different ones when they are struck on the piano separately, while she recognises their harmony when sounded together. At the same time, she readily recognises the difference of vocal sounds (or rather that

they are not the same, for she has no idea of the amount of difference). She immediately recognises the difference between harmony and discord, and has a limited perception of difference between all sounds, except those of a fifth or an octave."

It will be observed that this instance differs in some important particulars from that originally recorded by me, especially in the ability to discriminate between harmonies and discords, which in my subject's case was entirely wanting.

GRANT ALLEN.

## IX.—NOTES AND DISCUSSIONS.

*The Genesis of Disinterested Benevolence.*—Disinterested benevolence, about the genesis of which so much has been written, is a name for two distinguishable things. It is in some cases meant to designate that feeling which prompts us in a special instance to do good to some individual object. In other cases, the same name is applied to the quality of the mind which predisposes to all special benevolent impulses. But these two are of course not the same thing, and when I inquire into their origin I shall have to consider them separately. This, however, I shall do in an order the reverse of that commonly adopted, beginning with the special sentiment, and then inquiring into the general quality of the mind.

Benevolence, in the first sense, may be defined as the wish that the object of this feeling may be well,—as the wish for the welfare of something. In so far as, with a certain class of beings, welfare is accompanied by pleasure or happiness, benevolence is a wish for the pleasure or happiness of the object. But I should think it a great mistake to define it in this latter way. It would reduce the field of benevolence by excluding all inanimate beings, and make the definition far too narrow. Benevolence, I assert, can be felt quite as well towards inanimate non-sentient beings as towards sentient organisms. It can be felt towards any being of which it is believed that its welfare or perfection can be procured. As the parent towards his child, the master towards his dog, so the sculptor feels benevolence towards his statue, the author towards his book. The perfection of it makes him happy, its imperfection or destruction causes him pain. Whether the object is a living being or not, whether it is real or imaginary, the sentiment of benevolence is the same in all cases.

Disinterested I shall call such benevolence, if its origin cannot be traced directly to some egoistical motive or to some other moral or æsthetic feeling. Gratitude, which is dictated by a feeling of equity, admiration, which takes its origin in an æsthetic judgment, or the aversion to inflict pain, which is the result of our habits, I shall not call disinterested benevolence, and in this short essay I do not inquire into their origin.

To explain the growth of the special sentiment of disinterested

benevolence I must assume a certain number of qualities of the mind, the existence of which, however, has generally been admitted. Whether these qualities are native or acquired is here of no importance; all I require is that they be found in man very soon after his birth. These qualities are, first, the impulse towards self-preservation and self-augmentation inherent to every living organism, and without which it could not exist and develop itself; the wish to be and to be more and more, in a word, to grow. The second quality of mind which I have to assume is the consciousness of existing, not only as a passive sentient being, but as an active being too. And these two qualities once admitted, there follows from them a third, which is the wish to exist as an active being either actually or potentially, to be either acting or capable of acting—the wish for power. The fourth quality is that known under the name of capacity of associating ideas, and the fifth the capacity and tendency of the mind to fuse or confuse such associated ideas, so as not to distinguish them any longer from one another. The first four qualities just enumerated have long ago been generally admitted and amply illustrated. The fifth, that of confusing ideas, has likewise been admitted; it has even been most admirably illustrated in the works of many a philosopher of great repute, but I am not aware that its importance for morals has ever been sufficiently insisted upon.

The specimen case of confusion is that between the ego and the body. All men in early life confuse the two notions of self and body, and most men continue to do so for ever. Here already the confusion produces a kind of disinterested benevolence; we feel well inclined towards our body irrespective of any advantage to ourselves.

But it is not from this simplest form of the mental quality that moral benevolence takes its rise. Besides the confusion just spoken of, there is another, the outflow and consequence of that between body and mind, nearly as common among children and uneducated men. It is the confusion between the acts of ourselves, of our mind, and those of our body; between intended effects and willed acts.

This confusion is to be found in the laws of all rude and semi-barbarous nations. Their criminal codes punish the result of an act irrespective of the intention of the agent; they make, for instance, no difference between murder and manslaughter. In more civilised countries, where generations of lawgivers have for centuries developed the theory of criminal responsibility, the law is even now far from perfect. The result of an act, even when not intended, continues to be taken into account for punishment. A man who would be let off with a small fine for an illegal act producing no direct harm would be fined more heavily, or even imprisoned, if by such an act some harm was unintentionally done. Even if the legislator wished to correct this irrational state of the law, the general opinion of the uneducated majority would prevent him from doing so. It will be long ere the theory of criminal responsibility is generally understood.

But if in criminal law, which it is the interest of so many persons to clear up, the confusion still exists, how much the more will it con-



tinue in those matters where no great interest is at stake? If a man kills another man, fear of punishment, fear of his own conscience, will prompt him to consider whether the death was intended or not, whether he is guilty of murder or of simple manslaughter. But if a man by mere chance does some good to another man, there is nothing which incites him to a similar mental effort, while on the contrary the agreeable sense of power which the consciousness of the effect produces, the gratitude of the benefited individual and the approbation of society, will make the idea that he is the author of the benefit pleasant to him and prevent him from too closely analysing his motives. He will easily assume that he is the author of the benefit, and so it happens that when an act of his body has produced a beneficial result upon some one else, an average man thinks that he himself has done good to that individual.

From this confusion real disinterested benevolence will take its origin. The agreeable sense of power, produced by the unintended beneficial effect, will continue as long as the agent can remember that effect. This, however, will only be the case if the benefit persists for some time, so that it may hereafter be remembered, and it will be all the more the case, if that benefit continues for a long time so as to be actually perceived. There is then an inducement so to act that it may persist. This inducement is of course very weak at first, and will produce no action if there is not a considerable spontaneous energy. But there is already a germ of benevolence, the wish that a benefit conferred upon some individual may subsist. And if this sentiment under favourable circumstances produces further action, this time intentional, it will become stronger thereby; far more power is felt to be exerted and more interest is consequently felt in the effect. The wish to maintain the effect increases in proportion to the exertions already made, and it may finally become strong enough to overcome counteracting influences of considerable moment.

But this is not all. As it is a condition of the persistence of the beneficial effect, that the being upon whom it has been produced continues to exist, a secondary wish, very slight at first, will be generated, that the whole individual may continue to be. At the same time that the wish for the persistence of the beneficial effect becomes stronger, this secondary feeling augments and may produce action tending to the conservation and the welfare of the individual benefited. But as soon as the fact is realised that good has been done to the whole individual, this new secondary benefit will become the starting-point of a growing disinterested benevolence, directed no longer towards a single quality but towards the whole being. The secondary feeling may now grow much quicker than the primary one, which may in due time be entirely forgotten, and nothing will remain but true disinterested benevolence towards the individual. A benefit conferred by mere chance has produced true devotion.

To illustrate my meaning, which otherwise might remain obscure, let me adduce an example. A man had to throw away some water, and, stepping out of his house, threw it upon a heap of rubbish, where

some faded plants were nearly dying. At that moment he paid no attention to them, took no interest in their pitiable state. The next day, having again some water to throw away, the man stepped out at the same place, when he remarked that the plants had raised their stems and regained some life. He understood that this was the result of his act of the day before, his interest was awakened, and as he held a jar with water in his hand, he again threw its contents over the plants. On the following day the same took place; the benevolent feeling, the interest in the recovery and welfare of the plants augmented, and the man tended the plants with increasing care. When he found one day that the rubbish and plants had been carted away, he felt a real annoyance. The feeling of the man in this case was real disinterested benevolence. The plants were neither fine nor useful, and the place where they stood was ugly and out of the way, so the man had no advantage from their growth. Nor had the man a general wish to rear plants, for there were a number of other plants sorely in want of care, but to which the man did not transfer his affection. He had loved those individual plants; the benevolence towards the effect he had at first produced had by confusion become benevolence towards the plant itself, and the first feeling had been entirely forgotten.

In this case there was a complete confusion between the effect and the recipient of it, rendered easy by the fact, that by continuing the special benefit, the whole welfare of the plant was assured. But such is not always the case. If the benefits have all been of one and the same kind, if the benefactor has been prevented from extending the sphere of his beneficial action, the feeling of benevolence will remain in its primitive state, directed towards one quality of the individual. However strong it may become, it will never extend to the whole being.

Cases of this kind are by no means rare, but they are generally misunderstood. We assume that A feels benevolence towards B, and that if he lays so much stress on a single quality of the latter, this arises from an error of judgment as to what is good for B. In reality the error of judgment is ours, and the man whose folly we condemn is intellectually quite in the right. Having never learned to love B but only to love one of his qualities, A favours this latter even to the detriment of the holder.

In the first example adduced by me, benevolence took its origin in a chance act, no effect at all having at first been intended. This is not necessarily the case. A benefit may be intended in a limited degree, for instance as an equivalent for a benefit received. The spring of action here is gratitude, based on equity. But while this benefit is conferred, a benevolent feeling, first, towards the special quality furthered, and, finally, towards the whole individual, may arise in exactly the same manner in which it arose from a chance act. Gratitude will be forgotten and disinterested benevolence felt instead. One moral feeling has here given rise to another; equity to disinterested benevolence. In our social system this latter genesis will be most common; it is only where social relations are rare, that benevo-

lence will commonly be produced as a consequence of a chance act. But in all cases, it will be a necessary condition to the perfection of the feeling, that it be extended to the whole individual, as else it may often tend rather to injure than to favour this latter.

My meaning, I hope, is now sufficiently explained. It remains to be seen how far my theory is in accordance with the known facts about benevolence. For this I hold to be the indispensable test of every psychological theory—that it will offer an easy explanation of the facts known from experience; and this test I shall now apply.

The strongest feeling of benevolence on record is probably the love a mother bears to her infant child. The strong feeling that she has given it life, that the child is her creation, explains the energy of the affection. This is further strengthened by the consciousness, that by nourishing and tending her child she confers constantly new benefits, indispensable to its welfare. But as the child grows up, this benevolent feeling may, with mentally undeveloped persons, lose much of its power. When the child becomes independent, when it is no longer in want of the maternal care, the maternal affection will cool down or turn towards a younger child still in need of its mother's help. This is already apparent in the lower races of mankind, but much more so among the higher animals. Among these latter a mother will risk her life to defend her young, but when they are grown up, she does not care for them in the least.

Among uneducated people paternal affection is seldom very strong towards an infant. Some culture of mind is necessary to realise all the indirect benefits the father at first confers. But when the direct influence becomes considerable, the paternal affection augments and may assume a very great energy. Among animals paternal affection, I think, exists only in those species in which the father assists the mother in rearing and feeding the little ones, as for instance among birds.

During the proscriptions of Marius and Sulla, there were many sons who out of fear gave up their father, but it was never known that a father had denounced his son; a fact that somewhat startled the Roman moralists, who were unable to explain it. Upon my theory the explanation is easy enough. In Roman society the son could confer no benefit upon his father, and the mere feeling of gratitude for the benefits received from the parent was not sufficient to counterbalance the fear of the bloody edict. Filial affection can indeed become very strong, but whenever it does, it is easy to perceive that the parent has in some way become dependent on the child—has received benefits from him.

The relations between man and wife are such that the two are called upon to complete one another—that they have a fair opportunity of conferring great benefits without a corresponding sacrifice or exertion. The facility renders the feat all the more attractive, and strong affection follows upon it.

That friendship is based upon numerous mutual benefits is a fact daily seen. Prevent a friend from doing you good, impress him with

the idea that he is of no use to you, and his affection will cool. But ask a man for little services he is ready to render, let him know and keep in his mind that he has conferred a benefit upon you, and he will like you all the more for it, become interested in your welfare, and finally feel real devotion for you. I have never known the experiment to fail.

In public life those who receive the greatest benefits from the community are not the men most ready to make any sacrifice for the general good. Patriotism, I think, is not exactly rampant in workhouses, though the inmates owe everything they enjoy to the munificence of the public. The pauper who has done no good to his country, who, on the contrary, is a continual burden to it, feels no benevolence towards it.

On the other hand, a man in the higher ranks often enters the public service, either to earn in an easy way a sufficient income or out of ambition, and in order to gain fame. If such a man by his energy or by some distinctive talent becomes useful to the State, in most cases he will become a really patriotic citizen. The official will devote more than the strictly due time and energy to the fulfilment of his task, the statesman will give up his personal ambition, and often risk what must be dear to him, popularity and power, in order to carry the measures he thinks necessary to the welfare of his country.

And when some extraordinary man has made a discovery, has introduced a measure or proclaimed a truth beneficial to the whole world, the sentiment that he has been useful to so many millions of people gives a distinctive character to his benevolent impulses. Such a man, the benefactor of humanity, will refuse his sympathy to no part of it; he will at once feel benevolence towards any man with whom he comes into contact. He knows that he has done him some good, and is well inclined towards him.

I hope I have now shown that my theory agrees with the facts known by experience, that it can bear the crucial test. That being so, I think myself entitled to hold that the genesis of every single benevolent sentiment is that some good is done to an individual, either unintentionally or from another motive than that of disinterested benevolence, as from gratitude, sense of equity, religious feeling or hope of advantage, and that the benefit itself being loved by its author, this love or disinterested benevolence is by confusion extended to the individual upon whom the benefit has been conferred and maintained. It now remains for me to explain, how from single benevolent feelings there arises a general benevolent disposition, how the benevolent character is formed.

I think we shall again have to trace back the origin of the benevolent disposition to confusion. After having felt benevolence towards a number of individuals of a class, we come to confuse them with one another, and to transfer part of our feeling to the whole class. When any member of it presents itself, benevolence is at once excited.

That such is the case will appear more clearly if we remember how often we are favourably disposed towards a perfect stranger, simply

because in his outward appearance, his manner, his voice, or any other characteristic, he is like some other person we love. We have a confused but strong benevolent feeling towards a cluster of attributes belonging to the friend we have learned to cherish. Some of these attributes are suddenly and strikingly presented to us, and we feel well-inclined towards them. We confuse the attributes with the present possessor of them, and benevolence is felt towards the stranger. In this case the genesis is so clear, the confusion so glaring, that they cannot be overlooked. In other cases they will not be so apparent, but the process will be the same. The cluster of attributes—man, Englishman, or man of a certain type—is liked, because a number of persons dear to us possess these attributes. Men of another type or nation are often not liked at all, even by such people as are generally considered benevolent. The difference in this case is stronger than the likeness, and no confusion is made. What holds good of men holds good equally of all other beings. I have observed this genesis in myself; formerly rather hostile to dogs, now that I have a dog myself, I feel well inclined towards the whole canine species, but most to that part of it which has some characteristic feature in common with my favourite. This then is the genesis of the benevolent disposition, that after having by confusion become well inclined towards certain things, we feel the same benevolence towards each of their attributes; when we find these attributes in other things, we feel equally well inclined towards them, and by confusion extend this benevolence to the individual possessing the attribute. Hence it follows that the greater the diversity among the individuals towards whom we acquire a benevolent feeling when young, the wider the range of our sympathies, of the benevolence we feel at once towards those with whom we come in contact—a fact of some importance in educational science.

I do not know whether I shall have convinced my reader of the soundness of my theory. Limited space and an inadequate power over the language may have prevented me from attaining this end. But the question is so important that even the mere suggestion of a possible theory might be accepted as of some use towards the final solution of the problem, and as such I offer the foregoing pages.

PAUL FRIEDMANN.

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*Mr Sully on Pessimism.*—I hope that the appearance, in a recent number of this Review, of Professor Bain's observations on Mr Sully's important work will not make it seem presumptuous in me to offer a few further remarks upon it.

Were I to pass the most general criticism I could think of on Mr Sully's book, I should say that its true subject hardly corresponds with its title: it is in fact better than its promise. To be sure, most of its historical and critical matter is concerned with Pessimism; but along with this, and continuing when this is done with, runs a discussion of wider scope. Optimism, too, has its history briefly

narrated, is examined, and rejected. It is made quite clear that the author rejects, in their extreme form, both these opposite estimates of the world. Still, what with the title of the book and the principal incidence and merciless rigour of its polemic, it often looks as if the author held a brief against the Pessimists; and sometimes one is not quite sure that the situation has not really a little disturbed the impartiality of his judgment. This is the more to be regretted, because, although just at present Pessimistic views are (perhaps but temporarily) prominent in literature; in England, at least, it is Optimism much more than Pessimism that needs to be made to know itself, and that piecemeal and exactly, not by mere declamation,—of which there has been enough, with small result. Accordingly, it appears to me that it would have been better to criticise under some other title both Pessimism and Optimism (the historical matter might perhaps have formed a separate volume), and then to start anew to estimate scientifically the worth of life. As it is, a scientific estimate of the worth of life occupies the latter half of the work; and this, although it receives a suggestive rather than an exhaustive treatment, is the true pith and essence of the whole. It is here that the author's best powers come into play; and it is this portion of it which makes the work most valuable at present, and must give it its permanent place and importance in philosophic literature.

In attempting to estimate the worth of life, Mr Sully first examines the method of summing up particular pleasures and pains, in order, if possible, to strike a balance; and he rejects it, for the present at least, as impracticable for many reasons: since we do not yet sufficiently understand the causes of pleasure and pain, nor their comparative frequency in nature, nor can we precisely remember or compare our own experience, nor interpret that of others.

He next tries whether any better result may be obtained by substituting for scattered pleasures to be sought and pains to be avoided, a more coherent idea of Happiness as an end. His idea of Happiness deserves attentive consideration. It is not merely, as usual with Hedonists, net Pleasure; but, whilst ultimately resolvable into pleasure, is immediately conceived as the sum of the permanent causes of pleasure (such as Health, Wealth, &c.), and these ranked as objects of desire in the order of their importance. The last point raises a doubt whether such an idea can be definitely framed as long as the hedonistic calculus remains impracticable; for how without it can we compare the values of the permanent causes of pleasure?

But this difficulty does not really much affect Mr Sully's purpose: for the chief advantage which Happiness, as something permanent, has over fugitive pleasures is, that it offers a better mark to the man who tries to make a good thing of the world, whether or not it be so in its own character. And here the author brings out the curious infelicity of the German Pessimists' choice of Will as the principle of the world and fountain of evil. For it is precisely Will which must enable us to escape from evil, if any escape is possible. Even admitting that the causes of pain in the world are more numerous than the causes

of pleasure, still, if we are allowed to assume (what the sane absolutely will have granted them) that pleasures have a real existence and a positive value, it is the part of Will to select these pleasures springing scantily by the way, as one plucks a bouquet in a weedy garden. Pessimists who call the Will blind, and identify it with Reflex Action, Gravitation, and Heat, find it easy to overlook this fact; but such confusion of language has no foundation but the *Machtspruch* of a system-maker—a rude denial of one of the oldest and best established distinctions in Mental Science.

Will is, in fact, a source of good in two ways: first, as deliberate choice; and, secondly, because activity is itself to a great extent pleasurable. Whilst the Pessimists describe all work as irksome and painful, the pleasure of activity is a topic which Mr Sully dwells on so much, and returns to so often, that the more torpid sect of mankind must suspect a prejudice of the active temperament.

To return to the author's idea of Happiness: much as I admire it, I cannot help feeling that it is dwelt on somewhat too much to the exclusion of countervailing considerations. The pessimistic reader will certainly reflect that there exist in Nature permanent causes of pain as well as of pleasure; some of them constantly apt to frustrate the efforts of the intelligent Will, some of them quite above the Will, and for ever beyond its reach. And thus to confront the idea of Happiness, there arises the menacing idea of the world's Misery. It seems a thankless task to construct this idea, though it would have to be done in making a complete estimate of life's value. Here it will suffice to indicate the elements of misery that correspond with the powers which Mr Sully enumerates as some of the elements of Happiness. Over against Wealth we may set the principle of population and the practical exhaustibility of our planet's resources. The first of these Mr Sully notices, and justly observes that it is within the control of an intelligent community: but the second he does not enough consider, and perhaps it will prove less amenable to reason. He next lays stress upon Interests, or permanent spheres of grateful activity: but in the other scale lies the fact that few have the power of choosing their chief sphere of activity, their business; and that of these few the most must exercise their choice before they know either themselves or the world. And of other interests the principal, Politics, whilst daily becoming more pressing, is daily becoming less grateful, because the possible influence of an ordinary man grows daily less: whilst the casting vote on every question falls into the hands of a mob compounded of the residuum and the scum. Art and Science require what few possess, leisure—to say nothing of sensibility and intelligence. Thus, as Wealth is opposed by social pressure and the poverty of the earth, Interests are opposed by social pressure and the poverty of the spirit.

Wealth and Interests our author calls external factors of Happiness: the internal may be summed up under Culture, or the attainment of permanent spiritual possessions. First, there is Moral Culture: and it certainly surprises me to find hardly any allusion to the opposite of



this. For the chief internal factor of Misery is Sin, a permanent cause of suffering equally important to theologian and naturalist: and the sense of this has surely been a perennial source of the deepest Pessimism. And so every other sort of Culture finds its own particular Satan within, whose writhings grow more horrible the more narrowly he is imprisoned and bound. Schopenhauer's doctrine of the fixity of character is one of the many half-truths that make his writings plausible.

The task of harmonising the various elements of happiness, allotting to each its place in a scale of values, and regulating our endeavours accordingly, we have seen to involve at present an insoluble problem. To lay a plan of life, too, is perhaps harder now than it was a thousand years ago; for although we know more of the world and what may happen in it, we are at the same time exposed to the incursions of unforeseen influences from a far more complex and more extensive region. And, finally, the higher powers of Will, to which Mr Sully rightly attaches such importance, the power of wisely controlling desire and regulating attention, is the possession, and, I fear, the wish of very few. To wish for anything men must know what it is; but it may be doubted whether the majority are yet able to grasp the idea of self-control in its widest sense; for although it has again and again been presented to them, they have never retained it, but have readily surrendered it a prey to the narrow and vulgar glossing of tenth-rate interpreters.

Moreover, there is a conspicuous element of most men's ideal happiness, which our author does not mention, namely, Superiority. And this omission the Pessimist, whose possible reflections I am representing, may attribute to conscious weakness; for superiority in one man can only be gratified at the cost of correlative inferiority in others, usually in many others, though each of the many may desire to rule as strongly as the one, or may resent his supremacy as deeply as he prizes it. Our country, as perhaps about to become "one vast camp," is a comfortable prospect to those who expect to pose amidst it in commanding attitudes, but less exhilarating to citizens who prefer to be their own masters. The passion for power over others may still be needed for the welfare of society: but nevertheless it must be eradicated before social welfare can be complete. Here, then, we have a permanent power which is at once an element of the happiness of some and of the misery of many others; and at once a condition and an obstacle of progress.

Still, the world may improve. Mr Sully is ready to grant (rather, I imagine, for the sake of argument, than that he really thinks so) that in the experience of mankind hitherto there has been no balance of pleasure; and yet, he urges, it may be well for the world to have existed, if such an excess of pleasure can be secured hereafter as to leave a favourable balance on the whole. For the erroneous doctrines of Optimism and Pessimism, therefore, he would substitute Meliorism. And here the chief difficulty seems to be this:—We saw above that an obstacle to culture was want of leisure, and that leisure and wealth

were both dependent upon a decrease of population. But if the population should decrease enough to lessen the pressure of competition, would not that result in a retardation of progress? 'No,' say some, 'for progress no longer depends on competition and the destruction of the incompetent, so much as upon education and conscious effort at improvement.' But that thought hardly reaches the bottom of the matter: for what makes people resort to education and self-improvement, what but the fear of competition? How many would be at the pains—irksome and bitter it is to them—to educate their children, or themselves if they were not convinced that it is their only hope of success? Thus the apparent displacement of Natural Selection by direct adaptation really comes to no more than this, that the forces of Natural Selection have reflected themselves in almost everybody's mind. So far, then, as the increase of happiness depends upon the development of individuals, it depends also upon the maintenance of competition; so far as it depends upon the increase and diffusion of wealth and leisure, it requires the decrease of competition. From these data, we cannot expect happiness to increase as fast as the species develops; and a process of development must be slow which depends upon the impulse of forces (such as the love of Superiority) that at the same time retard it. So much longer must the world endure to enable the future to make amends for the past.

And even then how unfair it must seem; though the dead do not feel it, nor shall we when our turn comes to be as they are. How unjust of Nature that nothing but the joys of men unborn should recompense their fathers' sorrows! That yet unrealised happiness is something to us who foresee it—far off its coming shines; but what has it been to them who did not foresee it, but prepared its way—like hordes of slaves doing a work whose purpose is hidden from them—driven by despotic instincts, arbitrary passions, and every sort of uninterpreted illusion? For whence but from their accumulated afflictions could the feelings which we call our noblest have sprung? The bitterness that sweetens so much æsthetic ecstasy is the salt stain of innumerable tears. What hope and folly, what disappointment, what yearning and remorse must have commingled and distilled in human hearts before the first notes of *Lohengrin* could awaken there such an exquisite response! And they who prepared that cup never tasted it, but were only sickened with its crude ingredients. I believe the recollection of such things will sadden mankind for ever. Unless they can feel that the past also was for its own sake not in vain, they must dwell in the shadow of an inexpiable wrong. And when the ignorant admiration and hollow mimicry which now serve instead of reverence for the past, have been outgrown and abandoned, men will not forget the debt they owe it; but will exhort one another to bear it in mind, will appoint days of commemoration, will desire even passionately to have shared those sufferings, and will pay with fasting and sacrifice just homage to the dead.

In conclusion, I may observe that Mr Sully has not shown so fully as he might have done the importance of his subject, especially at the

present hour : it is, of course, clear to himself, but he has neglected to impress it upon the reader. I suppose it is not too much to say that there are now in Europe more people than ever before who do not expect another life ; to whom, therefore, for the sake of both themselves and their descendants, the worth of this life is all in all. Upon this supremely interesting subject few books exist that can pretend to be impartial ; and the present work is, as far as I know, by much the best of them.

CARVETH READ.

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*Prof. Jevons on Mill's Experimental Methods.*—Professor Jevons's review of Mill's theory of Induction (*Contemporary Review*, April, 1878) seems to me to omit one or two considerations which are indispensable to a full statement of the doctrine, and consequently to involve some misapprehension of Mill's meaning. The gist of the article is given in the following sentences :—"These methods (the Experimental Methods) are the only means of proving the connexion of cause and effect ; yet the methods depend for their validity upon our assurance of the certainty and universality of that connexion" (p. 89). "The Experimental Methods are of no validity, until we have proved a most general, in fact an *universal*, law, which can only be proved by these methods" (p. 91). The first of these sentences everyone will recognise as familiar in the *System of Logic* ; the second must come, I think, with a shock of surprise to most students of Mill, for they are very well aware that according to him this universal law is never exactly proved, and does not stand to the methods in the relation of proof to the thing proved. On the strength of the apparent contradiction, however, Prof. Jevons rejects Mill's theory of Induction as being inherently inconsistent.

Confining attention solely to the question of consistency, I have in the first place to point out that Prof. Jevons has not taken into due account the fact that according to Mill the belief in Universal Causation is a slow growth. It is an integral part of the theory that originally generalisations from experience were determined solely by psychological motives—by belief grounded on association ; and that such belief did not involve universality of causation, but merely uniformity in the class of objects observed. Only after such generalisations had been made to a considerable extent, and had been verified by experience, could the principles on which they rested be applied more widely. Not until the belief in uniformity had attained the dimensions of an assumption that all natural phenomena were subject to law, could a philosophy of induction be constructed. The methods of scientific induction might very well be applied in particular cases, and with merely particular import, before the assumption of general uniformity was made. Difference, *e.g.*, is the most familiar mode in which the more obvious and palpable connexions of cause and effect would be discovered, but it could not be generalised into a

method, applicable to all phenomena, unless the assumption were made that all phenomena were subject to law. This is Mill's persistent contention. He repeatedly points out that inductive generalisations not involving the universal law are essential preliminaries to any statement of inductive methods which involve that law. I would refer in support of this to *Logic*, Vol. I., 345 n., 355, Vol. II., 99 n., 101 n., 104-5 (7th ed.), passages which completely dispose of the argument on pp. 96-7 of Prof. Jevons's article.

It seems to me, in the second place, that Prof. Jevons, in supposing that we must have proved the Law of Causation before the Methods are valid, misapprehends Mill's theory. The peculiar relation between the universal law and the methods may, I think, be put in the following way. The methods are canons or rules of evidence, specialised statements of the signs of causal connexion. If our evidence exhibits certain signs, or satisfies the requirements of the methods, then we assume that causal connexion obtains among the phenomena, for this reason, that in such a case either causation is proved or the general law of causation is disproved. We do not say that causation is proved in this particular instance *because* causation is universally true, but we show that the evidence either warrants causation or disproves the universal law. In other words, our inductive reasoning exemplifies the special relation between the major premiss and conclusion of any reasoning.

It may be asked, why do we assume one alternative rather than the other? The answer to this will, I think, bring out a certain ambiguity in the word *proof*, which seems to have misled Prof. Jevons. The only reason is that the evidence *for* universal causation is incommensurably greater than the evidence against it. But the only *evidence* for an ultimate law of experience is conformity with fact; and to say that the evidence for universal causation is exceedingly great—so great as to be practically conclusive—is merely to say that mankind have so steadily found their inductive assumptions verified by experience that, in any instance where law is not at once apparent, the hypothesis of absence of law is not even momentarily admitted. Proof of all subordinate laws is given by comparison of the evidence in favour of them with the universal law, while the establishment of such laws lends additional strength to the belief in general conformity to rule. It is evident, then, that to Mill *proof* of the law of causation can never be in one sense absolute, for we have not exhausted the universe of facts (see close of Bk. III., ch. xxi.), but that the certainty with which it is held grows with experience, and has become so strong as to be equivalent in its effects to the certainty of a demonstrated doctrine.

I cannot think that Prof. Jevons has given due weight to this relation between the Universal Law and the Methods. Neither the note to p. 94 of his article, nor his reply (*Academy*, 4th May, 1878) to a critic who had correctly but in an objectionable manner called attention to the point, can be regarded as dealing satisfactorily with a question which is fundamental. Much of what Prof. Jevons rather rashly throws out with regard to the possible growth of the theory of

induction in Mill's mind might have been spared had he fairly weighed such a passage as the following :—"Neither would it be correct to say that every induction by which we infer any truth, implies the general fact of uniformity *as foreknown*, even in reference to the kind of phenomena concerned. It implies, *either* that this general fact is already known, *or* that we may now know it : as the conclusion, The Duke of Wellington is mortal, drawn from the instances A, B, and C, implies *either* that we have already concluded all men to be mortal, *or* that we are now entitled to do so from the same evidence. A vast amount of confusion and paralogism respecting the grounds of induction would be dispelled by keeping in view these simple considerations" (Vol. I. 345 n.).

It would require an article fully as long as that of Prof. Jevons, if one were to follow him into the minor points raised. But I should like to say that the absurdity detected by him in the passage quoted from Mill (p. 90, *C.R.*) seems due to some rather arbitrary interpretation of the words 'general law'; that to base scientific induction on the unscientific is exactly the same process which has produced the doctrine of Probabilities,—both are but good sense reduced to rule; and that, despite the awful fate predicted in his last sentences for all who base induction on causation, I should maintain not only that every inductive generalisation involves the assumption of Uniformity, but that the Inverse Doctrine of Probabilities is in precisely the same case.

ROBERT ADAMSON.

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*Necessary Connexion and Inductive Reasoning.*—Were the question asked—What it is in the attitude of logicians that seems to me to make the inquiries advanced in this paper indispensable to the progress of logical theory? I should be disposed to return the following answer: The weightier matters of the law are not receiving sufficient attention. While the theory of Evolution, that era-creating discovery of the present century, is being so largely verified in physical science and even in that department of physiology embraced by psychological inquiry, in Logic, the *Scientia Scientiarum* though it has been called, it has not yet been successfully shown to be the law regulating all intellectual processes. It is true, the *à posteriori* school of logicians, guided by this luminous principle, has met with considerable success in prosecuting its inquiries; nevertheless, the opposite school, I venture to assert, still retains hold of enough of the truth to justify its position. The Lualaba of so-called transcendental truth has not, as yet, been identified with the Congo of generalisation from experience. This identification, I need not say, would, at any time, be a consummation devoutly to be wished, but more especially so when, as now, a crisis is impending, and when the extravagant procedure of certain imaginative votaries of science has called forth even from so advanced and fearless an inquirer as Prof. Virchow a warning to keep within the fortified lines of objective truth; and when, therefore, the

guiding light of the true *Scientia Scientiarum* seems to be so much needed. What leaves to logicians of the *à priori* school a cause still to uphold is, I believe, the fact that such explanations as their opponents have been able to give of inductive knowing fail to satisfy the implicit convictions of the mind. While, for ages, the domain of reasoning has been largely explored in connexion with deduction and general truths, it is only in modern times that induction and the concrete or the individual have had much attention yielded to them. The differentiating processes, the working-classes of the human intellect, which, in the order of evolution, seem to be prior to the generalising operations, still await their full explication. This incompleteness in the fundamental truths of Logic produces obscuring effects upon the whole science, and causes logicians to be divided in opinion. This, at a period when the civilised world threatens to separate into two hostile camps—authority *versus* free inquiry, is by all real lovers of truth to be deplored.

Truths are usually divided into necessary and contingent—which are here called related terms, contingent being regarded as equivalent to non-necessary, and non-necessary to contingent. Some, however, contend that there is no sufficient reason for dividing truths into necessary and contingent. Any truth, regarded as such, is, they hold, necessarily true. To say that a truth is contingently true is to imply that it is open to doubt. This, however, is not what is meant by a contingent truth. Contingency as applied to truth is not usually understood as a synonym for probability, because many a contingent truth is true beyond all question, is, indeed, necessarily true. For instance, it is as true that a £5 note remains in my purse as long as I can manage to keep it there, as it is true that a whole is greater than its part. What, therefore, is the precise meaning to be attached to the terms necessary and contingent as applied to propositions? By the former, I understand a necessary connexion between one thing and another; by the latter, a contingent connexion. The question here to be discussed, then, is, How is necessary connexion perceived?

Two facts being observed as merely joined together, we have but an indefinite notion, perhaps, of the nature of the union that subsists between them, unless it happens to be previously known to us. This prior knowledge forms the mental *nexus* by means of which we determine the nature of such union, as regards necessity or contingency. How is this *nexus* obtained?\*

\* This application of a mental *nexus* is deduction; the simplest form of which, it appears, is reading out, as we have occasion, what a universal or a general proposition declares as to each case to which it is judged to apply. It rains, some one informs me. Rain constitutes one of the terms of the proposition (implicitly contained in the mind for the most part) "All rain wets," therefore, I conclude, this rain wets, and I never think of going out to ascertain the fact—I feel certain of it.

It is commonly held that deduction involves syllogising. This I fail to perceive. When a chain like Judæa, Samaria, Galilee is given, I perceive that Judæa is mediately joined to Galilee; when I do this I syllogise, but

The only idea of a *nexus* derivable from simple perception is what may be called indefinite or historical. If I perceive, in this way, that A is joined to B, I am made aware of no more than the simple fact of their historical union; and if I thus perceive that A is joined to B invariably in numberless instances, still this adds nothing to my idea of their *nexus*, except that it is a constant and general one, any more than producing ciphers to any extent will yield anything more than a multiplicity of ciphers. Some, however, hold that the notion of necessary connexion is due to nothing else than the constant repetition, without exception, of  $A + B$ ; that this organises in the mind, by the law of habit, an invincible tendency to think of  $A + B$  as inseparable. Now what clearly indicates the erroneousness of this view are the facts that follow. In the first place, the notion of necessary connexion is not enforced by every instance of invariable uniformity of connexion, by the constant rising of the sun, for example. In the second place, uniformity of connexion is not realised wherever the notion of necessary connexion is enforced, for one instance, completely attested, of what is required to prove necessary connexion does as well as a million. At the time alluded to by the poet when he sang—

Sic fatus, meritis aris mactavit honores,  
Taurum Neptuno, taurum tibi, pulcher Apollo,  
Nigram Hyemi pecudem, Zephyris felicibus albam—

there could have been no belief to any extent in laws of Nature—uniform connexions; yet the feeling of necessary connexion, in single and familiar class instances, was, I feel convinced, as strong then as it is now. In the third place, the notion of necessary connexion is enforced where facilities are afforded for framing a contrary notion, where there are not wanting analogies or models to assist us in imagining the two things as existing apart, and where it is indispensable to ascertain that such a conception of them is excluded. It would be quite possible, for instance, to suppose that oxygen and hydrogen might unite in other proportions than 8 of the former to 1 of the latter to form water, were not the supposition excluded by accurate knowledge.

The fact is, the notion of necessary connexion enters most intimately and largely into the daily experience of every man, woman, and child. Implicitly though it be, we realise the notion every time we perceive that an object rests upon a base, or hangs from a support. When, for instance, we see a statue resting on a pedestal, we are wont to say that the statue depends for support upon the pedestal. But in this and all kindred instances, what do we immediately perceive? Simply that the statue and the pedestal are in contact, the former above, the

there is here no deduction. These two processes are, indeed, in numberless cases combined, but while deduction, in its simplest form, is determining, by means of a mental *nexus*, that two things are connected, but *not* by a middle link, it cannot involve syllogising, for that, in its elementary form, is perceiving that two things are joined by a middle link, or medium of any kind, as A in B in C, therefore, A in C; or A in B, C in B, therefore, A and C co-existing, &c., &c.



latter below. But in this, there is no detection of the fact that the pedestal supports the statue, and before this idea can be acquired there must be a further exertion of mind; there must be a direct perception to the effect that when the pedestal is slipped from under the statue, the latter, unless otherwise sustained, falls to the ground. We have then before the mind the two lines of immediate perception, positive and negative, out of which is evolved the complex perception that the statue depends for support upon the pedestal; in other words, is so connected with the pedestal (first premiss) as not to be able, without the same, to maintain its position (second premiss). Simple perception enables us merely to ascertain that  $2 + 3$  makes 5, and, again, that in the absence of either 2 or 3 the sum 5 ceases to exist. But when simple perception has done so much it has reached its limit. It is by mediate or inductive perception, by comparing together the above data, that we are enabled to get a knowledge of the necessary connexion which subsists between  $2 + 3$  and 5. By simple perception we know only that two straight lines *do not* enclose space. It is by inductive perception we know that they *cannot* do the same.

Now notice that the reasoning involved in these and kindred instances has, in my opinion, no necessary connexion with generalisation. It is induction in single instances, or in the Category of Difference, which, in the order of evolution, as it seems to me, is, with one exception, prior to the Category of Resemblance,\* to which generalisation

\* It seems to me that all thought moves in two Categories, that of Difference, and that of Resemblance.

Two indispensable elements of all intellectual operations are discrimination and identification.

An object, as presented to sense, is cognised by the intellect as a Whole. This Whole is discriminated, the Whole from its parts, these from each other, and the Whole and its parts from other Wholes. This act of the intellect, which is discriminating judgment, I place in the Category of Difference, although in common with every operation of the intellect, in so far as there must be identification of the manifestation of *this* moment with *that* of the latest, later, late, past manifestation, it is, indeed, in the Category of Resemblance.

Discriminating judgment I call perception, and hold that it is expressed by the Proposition regarded as singular.

Conception, which is the operation to which we owe general notions and common terms, and which, as a judgment, I hold is expressed by the Proposition regarded as general, I place in the Category of Resemblance.

Now, it seems to me, that in logical order, the order of evolution, Conception presupposes Perception. In time, indeed, they may be contemporaneous; nevertheless, there must be two or more percepts to form a concept. A A A, to Perception, single objects become to Conception, because they resemble each other, one whole. Thus, A A A to Perception become to Conception A's.

Perception, Induction, and Syllogising, in the order of evolution, I look upon as being, in the first place, in the Category of Difference, and, therefore, singular.

When Conception operates in conjunction with these operations, they become plural, general, and move also in the Category of Resemblance, the Whole of Extension.

exclusively belongs; and this mode of reasoning in single instances, which I am inclined to call Singular Induction, seems to be a process taking place in millions of minds that seldom from this foundation attain to universal propositions and laws of Nature, being content simply to reason from the old to the new when the latter presents itself. The burnt child, for example, dreads the fire long before it dreams of launching out of this painful experience into the full stream of universal law. In this sense, I have no doubt, as Macaulay contends, "that the inductive method has been practised ever since the beginning of the world by every human being". Tracing induction, then, farther back than the outlying islands of inference from particulars to particulars, I contend that its mainland consists of single instances, that it has its root in the Category of Difference. According to my thinking, all the operations of the intellect, apart from Conception, the generalising process, are singular. At the root of all thought, especially reasoning, we have nothing but isolated singulars, standing, like so many piers of a bridge, aloof from each other, waiting for the superstructure that is to unite them, singulars which suggest no inference whatever from this instance to that, from these particulars to those. All reasoning from one instance to another involves an effort of conception. When, by Singular Induction, I ascertain that A is necessarily connected with B, and when, by Conception, I note the existence, as mere historical connexions, of other instances of A + B, namely, similar instances, I extend to them the necessary union that, in the case of the first A + B, I have inductively proved. Here, however, observe that it is only when we have, as a foundation, an induction proving necessary connexion that we are fully entitled, in every case, to generalise from this to that. According to this view, then, generalisation is not the first, but the second step in inductive reasoning.

Inductive generalisation carried out to its full extent I would call Universalisation. When, either among co-existences, or among antecedents and consequents, necessary connexion is inductively established, the inquiring mind tends to generalise *ad infinitum*, and express the result in a universal proposition. "Necessity and universality," Hamilton observes, "may be regarded as co-incident. For when a belief is necessary it is *eo ipso* universal, and that a belief is universal is a certain index that it must be necessary. (See Leibnitz *Nouveau Essais*.)" There is much truth in these words, but they seem to me incorrect in stating that necessity and universality are co-incident. Necessity, by which I mean the belief in necessary connexion, originates in the Category of Difference, that is, among single instances, whereas universality, by which I mean the belief in universal connexion, is in the Category of Resemblance, and the latter, I cannot avoid thinking, presupposes the former, except indeed in so far as the conscious identity of every mental operation with itself from time to time is a fundamental law of mind.

It has been stated above that necessity and contingency, as here used, are related terms. This is shown to be the case in the following

manner: If, to adopt J. S. Mill's notation, we compare instances of ABC *abc*, BC *bc* with instances of ABC *abc*, BC *abc*, we must perceive that, in the former example, a kind of connexion is to be detected as existing between A and *a* quite distinct from that found to exist between A and *a* in the latter example. I have elected to call the connexion between A and *a*, in the former instance, necessary, and the ground of universalisation, but, in the latter, non-necessary or contingent, and the ground of limited generalisation only; for I quite fail to understand how these two kinds of connexion can be confounded, or even treated as of no weight. I also fail to perceive how the terms necessary and contingent, so long in vogue for expressing this distinction, can well be changed for the better.

When it is clearly understood that, by induction, we cognise two kinds of connexion, necessary and contingent, it will be all the easier to realise the function fulfilled by the universal proposition in reasoning. That function appears to be to certify that induction, in certain instances, has established necessary connexion so thoroughly that the work need not be repeated when cases coming within the ideal or potential extension of the universal proposition present themselves in reality. Here it is well to observe that any number of inductions proving contingent connexion only do not afford a proposition fulfilling functions similar to the above.

The method by which the universal proposition is reached may be thus set forth: When necessary connexion is proved by induction, the supposed negation, in any case, of such a connexion is felt to be anti-inductive, and, therefore, not to be conceived as true, but the affirmation, in any supposed case, is never felt to be anti-inductive, even when multiplied indefinitely; on the other hand (and the contrast is instructive) when contingent connexion is proved by induction, the supposed negation of such a connexion is not felt to be anti-inductive, and is, therefore, perfectly conceivable. It is quite open for us to imagine that the sun, some time or other, will not show his light, but it is quite out of our power, I say, to conceive that  $1 + 1$  can, in any part of the universe, present itself to any being endowed with intelligence as making what is known to us as 3. Why? Because such a supposition is anti-inductive.

It is held by some that the universal proposition guarantees the truth of every proposition that can be deduced from it. Now this guaranteeing force does not reside in the inferentially generalised contents of the universal proposition, but in such of its contents only as are proved by induction to be necessary connexions. If the cases which have undergone inductive scrutiny be A A A, &c., and the ideal cases inferentially generalised from them be *a a a*, &c., the guaranteeing force, as J. S. Mill contends, does not reside in the latter, but solely in the former. There is, however, this important fact to be noticed: the universal proposition serves to measure the amount of guaranteeing force that resides in A A A, &c., and registers the belief that it is *unlimited*, and, therefore, of course, competent for every conceivable case of deduction to which it may be applied.

While maintaining the doctrine of induction herein advanced, I would not have it supposed that I am claiming for elementary induction all that inductive research is usually understood to embrace. If a chemist, in an unexplored region of the globe, were to pick up some new substance, and find, after carefully analysing it—the accuracy of the analysis being confirmed by other chemists—that it was composed of certain elements, this being established by valid induction, he would naturally make a statement, which would be virtually universal, that the substance A consists of such and such elements. This statement, however, would afford no information as to the quantity in which the new substance existed. The naturalist's description of that extinct race of birds called the dodo aims at being a universal statement, as much as his description of the rook tribe which darkens our fields. But such a universal statement, in the one case, conveys no information as to the extinction, or, in the other, as to the superabundance of the birds mentioned. The two lines of investigation here indicated both come under the head of inductive research, but while the one is inductive reasoning, the other is, more properly, statistical observation.

Singular Induction, as it presents itself to my mind, involves a rule of the very highest importance. Macaulay, in his Essay on Bacon, says: "Here is an induction corresponding with Bacon's analysis, and ending in a monstrous absurdity. In what then does this induction differ from the induction which leads us to the conclusion that the presence of the sun is the cause of our having more light by day than by night? The difference, evidently, is not in that part of the process for which Bacon has given precise rules, but in a circumstance for which no precise rule can be given." This latter statement, I confidently submit, is an error, arising from the failure to discover that Induction has its root in single instances. When it is seen that this is the case, the following Rule cannot fail to shine out of the dispersing mist:—*The medium through which the positive and negative premiss of an induction are compared must be really or virtually one.* Tested by this Rule, such reasoning as the following is found to be fallacious, because there is no medium of comparison, as demanded by the Rule: This country prospers, and has protective duties; that country does not prosper, and has no protective duties: therefore, this country prospers because it has protective duties. By the words "virtually one," in the Rule, are meant two media which so nearly resemble each other, like two new sovereigns of the same coinage, that practically there is no difference between them. Thus, if it were possible to find two lads so like in capacity, age, and disposition, as to be proximately identical, and these lads were educated, the one according to the classical, the other to the scientific system, we might conclude, with close approach to accuracy, that any peculiarities manifested by the lads as compared with each other, would be due to the system under which each lad had been educated. But if the lads were so differently constituted as to be opposites to each other, no valid induction could take place.

But how is it that deduction, if, in the order of evolution, it supposes induction, arrived at the purely formal stage of development before the latter? This is to be accounted for by the fact that the problems which were found approachable at the dawn of inquiry were of the kind to demand deductive rather than inductive treatment; the induction that they involved was implicit or spontaneous only, of that sort, for example, which brought forth the axioms and definitions of Euclid. Since universal propositions of the first instance, demanded as a starting point for deduction, were thus acquired, they came, because of their occult origin, to be called self-evident truths, and, in course of time, rational intuitions, *à priori* judgments, and various other names signifying that, as to origin, they are independent of experience, and are not derived, according to the order of evolution, from single instances. As questions involving more inductive treatment came within reach, induction of the statistical order began to be developed, giving rise in course of time to that stage which the *à priori* school describe as incomplete or material induction. But if the doctrine contained in this paper be correct, it follows that there is no reason for limiting universal truths to the sphere of logical and mathematical necessity, and for demanding for them any higher origin than induction. The universal truths of chemistry seem to me to be founded on precisely the same evidence as the universal truths of geometry. A Law of Nature, if proved by induction to be a necessary connexion, stands exactly on the same foundation, as to evidence, as  $2 + 3$  equals 5. Even the Laws of Identity, Contradiction, and Excluded Middle are, to my thinking, first, simple perceptions giving birth to conceptions; secondly, singular inductions; thirdly, universalisations flowing from the latter source.

From the brevity I have imposed upon myself, I am conscious that I have not done full justice to the doctrine here advanced; I have, however, recounted its leading features; and after pondering over these for more than a quarter of a century, I venture to think that logicians are called upon to reckon with them before they can confidently affirm what Induction *is* and *is not*.

W. GEO. DAVIES.

## XI.—NEW BOOKS.

*The Philosophy of Reflection.* By SHADWORTH H. HODGSON, Hon. LL.D., Edin., Author of *Time and Space*, *The Theory of Practice*, &c., 2 vols. London: Longmans & Co., 1878. Pp. 441, 312.

"The purpose of these volumes," says Mr. Hodgson in his very striking Preface, "is, first, to lay down the outlines, principles, and method of a system of Metaphysic, basing it upon known facts of consciousness; next, to show that this system necessitates the conception of a Constructive Branch of philosophy, dealing with phenomena which are but very partially accessible to us; and lastly, to combine these two branches (the latter given in merest outline) into a single

System of Philosophy". The present work, following upon its two predecessors, completes for the author a cycle of thought, and he declares, as the result of his whole speculative effort, that "we are at last in possession of a metaphysical system which will not have to be reversed, however much it may in the future be enlarged and differentiated". By Metaphysic or Metaphysical Philosophy he means "that analytic branch of knowledge to which Physic leads, and which in order of study comes after physical knowledge; but while allowing, and even claiming for, it the character of a doctrine of Existence, he means existence that is relative and phenomenal, and thus distinguishes metaphysic from all that has been understood (since Aristotle) under the name of Ontology. The principle he claims to "have established beyond the possibility of reversal is that of Reflection". "Reflection is the foundation of metaphysic, because, being the moment of distinguishing the objective and subjective aspects of phenomena, it gives us our notion of *existence* as well as cognition, and that in the largest sense of the term existence, so that we cannot speak or even frame a notion of anything beyond it." Also, by his distinction of *Nature* and *History* (expounded in *MIND*, Nos. I.-III., as in the present work), he claims to have drawn a firm line between Science and Philosophy without sacrificing the necessary independence of either; while, in the sketch he attempts of the Constructive Branch of Philosophy, he shows why the ontological questions are not soluble in their old shape, and also in what shape they are conceivably soluble. After otherwise presenting the principal features of his system, Mr. Hodgson, in his Preface (to which attention is now confined), goes on to speak of the sources of his Philosophy. He set himself in these days, after Hegel and Schopenhauer, to carry farther the *critical* strain in Kant's speculations in the manner (as he has since discovered and heartily acknowledges) adopted already in Kant's later years by the Jew Salomon Maimon. The philosophical inspiration came upon him, however, from Coleridge. From Coleridge he has learnt "everything"—notably, the two principles of reflection and of distinction of inseparables, but, most of all, "the intimate union between the intellectual and the emotional elements in human nature". With Coleridge he would maintain that "the emotions, and among them the religious emotions, are as deeply inwoven in the structure and mechanism of consciousness as any feature of sense or reason," carrying us down "into the heart of things, the hidden springs of Being, the inmost nature of the Existent". And, in fine, it seems to him that the two questions of supreme practical importance, in relation to philosophy, at the present time are these:—(1) "Have we or have we not valid reasons for conceiving of ourselves and the actual world in which we live as surrounded by an *unseen*, but in its nature phenomenal, world, of which ours is the seen part and with which it has real but unseen relations?" (2) "Can we treat that unseen world, simply because it is unseen, as if it were not existent?" His affirmative answer to the first is implied in the putting of the second question, and to this his answer, closing a remarkable utterance, in a most impressive No.

*On the Theory of Logic: An Essay.* By CARVETH READ. London: Kegan Paul, 1878. Pp. 258.

The readers of MIND had a foretaste of this Essay in No. VI, and later on it will receive the critical notice which its importance deserves. It is a fruit of the studies made by the author three or four years ago, when holding a travelling scholarship from the Hibbert Trust.

*The Elements of Inductive Logic*, designed mainly for the use of Students in the Universities. By THOMAS FOWLER, M.A., Professor of Logic in the University of Oxford. Third Edition, corrected and revised. Oxford: Clarendon Press, 1876. Pp. xxviii., 360.

This new Edition of Prof. Fowler's well-known and useful Manual (appearing only now, though dated 1876), is prefaced by some pointed observations on the "inconsistencies and paradoxes" into which Professor Jevons has fallen in his *Principles of Science*, when treating of the validity of inductive inferences, of the relation of Induction to Deduction, &c. Various alterations and additions have been made throughout the work, rendering it still more effective than hitherto for students' purposes.

BACON'S *Novum Organum*, Edited with Introductions, Notes, &c., by THOMAS FOWLER, M.A., Prof. of Logic in the University of Oxford. Oxford: At the Clarendon Press, 1878. Pp. 619.

A very elaborately annotated edition, replacing the older Clarendon Press edition by Mr Kitchin. The Notes and Introduction together are intended as "a commentary which, besides explaining the difficulties of the work (by no means few or small), should also present Bacon in his relations to the History of Philosophy, Logic, and Science". Prof. Fowler has put into the seventeen distinct sections of his Introduction (amounting in all to 151 pp.) the results of much inquiry, which it may be possible on another occasion to appreciate with due care.

*A Candid Examination of Theism.* By PHYSICUS. (Vol. IX. of the English and Foreign Philosophical Library.) London: Trübner & Co., 1878. Pp. 197.

An essay of marked ability, that does not belie its title. It examines in six chapters—(1) various Illogical arguments in favour of Theism, (2) the argument from the existence of the Human Mind, (3) the argument from Design, (4) the argument from General Laws, (5) the logical standing of the question of the being of a God, (6) the argument from Metaphysical Teleology; and in a final chapter sums up to a conclusion mainly negative. The essay was written several years ago, before the publication of Mill's posthumous treatise. An Appendix, expository of a fallacy in Locke's use of the argument against the possibility of matter thinking on the ground of its being inconceivable that it should, is followed by four supplementary essays: (1) examining Mr Spencer's Theistical argument with reference to Mr Fiske's



"Cosmic Theism" built upon it; (2) examining Prof. Flint's *Theism*; (3) on the speculative standing of Materialism; (4) on the Final Mystery of Things.

*Insanity in Ancient and Modern Life*, with chapters on its Prevention.  
By DANIEL HACK TUKE, M.D. London: Macmillan & Co., 1878. Pp. 226.

The author deals in Part I. with the 'Prevalence of the Causes of Insanity among the Nations of Antiquity,' and enumerating as general causes—intoxication, defective nourishment, inter-marriage, emotional disturbance, and intellectual strain, finds evidence that, if not largely active in primitive races, they became distinctly so among such cultured peoples as Egyptians, Jews, Greeks, and Romans. In Part II., treating of 'Insanity in relation to Modern Life,' he finds, after making every possible deduction, "that there is reason to fear some real increase of occurring insanity" in this country. In Part III. he gives practical advice with a view to 'Self-prevention of Insanity'.

*The Final Philosophy, or, System of Perfectible Knowledge issuing from the Harmony of Science and Religion.* By CHARLES WOODRUFF SHIELDS, D.D., Professor in Princeton College (New Jersey, U.S.). London: Trübner & Co., 1878. Pp. 609.

The scope of this large treatise will be understood from the following Table of Contents:—

"Introduction—The academic study of Christian Science. Part I. The philosophical parties as to the relations between Science and Religion—Early conflicts between them, or the historical causes of their present disturbed relations—Modern Antagonism between them, or the battle of Infidels and Apologists in each of the sciences, in philosophy, and in civilisation—Modern Indifferentism between them, or the truces of Sciologists and Dogmatists in the sciences, &c.—Modern Eclecticism between them, or the exploits of Religious Eclectics in the sciences, &c.—Modern Scepticism between them, or the surrender of Religious Sceptics in the sciences, &c. Part II. The philosophical theory of the Harmony of Science and Religion—The Umpirage of Philosophy between Science and Religion—The Positive Philosophy, or theory of Science as ignoring Revelation—The Absolute Philosophy, or theory of Omniscience as superseding Revelation—The Final Philosophy, or Theory of Perfectible Science as concurring with Revelation—*Philosophia Ultima*: project of the perfected Sciences and Arts."

*Live Questions in Psychology and Metaphysics.* By Prof. W. D. WILSON. New York: D. Appleton & Co., 1877. Pp. 164.

Six lectures, selected from the author's Courses on Psychology and Metaphysics with History of Philosophy, as delivered to his classes in Cornell University. The first three are psychological, and treat of Sensation, Consciousness, Volition; the special aim of the author being to sift the various explanations that have been given of these fundamental facts, in the hope of clearing them of some confusion and error. Thus in regard to Sensation he remarks on the absence of any clear definition of its meaning, whether as referring to

an act fundamentally distinct from perception, or as implying that along with the latter it goes to make up one complex act. He himself proposes to limit the signification of the term to "any *state* of either of the two lower nerve-centres, which has been recently produced". Perception, on the other hand, is an *act* of the mind, consequent on a sensation reaching the hemispheres of the brain. So in regard to Consciousness he observes that several different and conflicting interpretations have been given to the term, and then proceeds to argue that consciousness is not essential to sensation, either as an element or as a sign. The last three lectures are devoted to the consideration and proposed solution of the three great questions in Metaphysics—the Nature and Origin of Knowledge, the Ground and Extent of Certainty or Absolute Truth, and the Nature and Limits of Real Causes.

*L'Imagination. Étude psychologique.* Par HENRI JOLY, Professeur à la Faculté des Lettres de Dijon. Paris: Hachette, 1877. Pp. 264.

M. Joly's work, written with delightful facility of style and with fine psychological insight, contains a very thorough study of the various forms of Imagination in health and disease. Opening with a chapter on the relation between Sensations and the Images formed from them, M. Joly puts forward as explanation of the production of images the general law that each organ struggles to live its own life, to develop and maintain itself, and to continue its normal activity even under unfavourable circumstances. Thus the organs which under external stimulus are concerned in the production of sensations tend in the absence of these conditions to resume the mode of action to which they have become accustomed. The various forms of Imagination are then traced under three heads: (1) Where the images mingle with our ordinary intelligent life without disturbing it or suspending its normal activity (Imagination in health); (2) Where the image does not put an end to the activity of sense or reason, but so interferes with them that their normal order is reversed (Hallucinations, Madness); (3) When the image is so powerful that it veritably suspends in whole or part the exercise of the other mental functions, even of the senses; our mental life is replaced by a secondary mode of existence, dominated throughout by some fixed image or idea (Somnambulism, Ecstasy). These three forms are then treated with considerable detail. Beginning with Somnambulism, M. Joly points out how the remarkable phenomena of intensified sensibility, manifested even in the absence of the normal conditions of experience, may be explained by the action of the image which is dominating the mental life of the somnambulist. The receptivity to impressions in such circumstances is determined to one definite direction, that which harmonises with the ruling idea. Numerous illustrations of this principle are given, and the facts of induced somnambulism or magnetic sleep are brought forward in support of it. In the following chapter (iv.) the author lays down as the conditions of Hallucination, cerebral excitement, suspension of external impressions, and the involuntary exercise of memory and imagination. He

shows very clearly how the fixed idea comes to be projected and objectified through the withdrawal of corrective impressions and the enfeeblement of attention and volition. Chapters v. and vi., on Dreams, Unreflective Imitation, and Credulity, are pleasantly written, but contain nothing of importance. Chapter vii. deals fully with the action of the senses as determining the number, quality, and peculiarity of the images, and conversely with the action of images as leading to imitation of observed movements, to the actual experience of imagined sensations and motions, and to the production of states of feeling corresponding to expressive acts. The remaining four chapters contain remarks on imagination as manifested in Natural Expression, in Art, Literature, and Science.

*Dei Concetti direttivi di John Stuart Mill nella Logica e nella Psicologia.* Nota del Prof. ALESSANDRO PAOLI. Roma: 1877. Pp. 23.

The author divides his essay into two parts. In the first, examining Mill's estimate of the value of names and the nature of general ideas, he maintains that names cannot be held to signify things or to refer directly to physical facts, and further that they cannot be taken as the *data* of Logic. For the purposes of thought a sensation has no other value than what it derives from its relation to other sensations, and the knowledge of any object or physical fact is moulded by the conditions in which it is presented to the mind. The true foundation, therefore, for the rules of Logic is to be found not in names, but in the conceptions which are acquired in the process of scientific thought. When Mill attributes the decline of Logic within the last two centuries to the mistake of comparing two ideas instead of two phenomena in a proposition, he seems to the author to fall himself into a mistake. The older logicians erred, not in seeking to establish a relation between two ideas instead of two phenomena, but in adopting traditional ideas instead of following the advance of thought and recognising that Logic is subject to modification and correction from the progress of knowledge. In the second part of his essay Prof. Paoli discusses Mill's psychological doctrines. He contends that Mill by giving undue regard to phenomena and their laws has landed himself in contradictions, and misconceived the nature of the connexion existing between Logic and Psychology. The belief in the External World, the conceptions of time and space, and knowledge generally, are not to be explained by a mere fusion and union of representations; there must also be the perception of their contiguity, and the exercise of judgment.

*Die Ethik David Hume's in ihrer geschichtlichen Stellung.* Nebst einem Anhang über die universelle Glückseligkeit als oberstes Moralprincip. Von Dr. GEORG VON GIZYCKI. Breslau: L. Köhler, 1878. Pp. xvii., 357.

"In this treatise the author seeks to contribute to the due appreciation and true historical understanding of Hume's ethics in Germany. The Introduction deals with the doctrines of the most important English moral philosophers, *viz.*, Bacon, Hobbes, Cudworth, Clarke, Wollaston, Cumberland,

Locke, Shaftesbury, Butler, Hutcheson (pp. 1-30). Next follows the exposition with detailed criticism of Hume's ethics (pp. 31-196). In conclusion, a short survey is taken of the chief ethical theorists after Hume, viz., Smith, Hartley, Mackintosh, Bentham, J. S. Mill, and Darwin. The essay appended (pp. 245-357) is only loosely connected with the main treatise. The contents are :—I. Arguments for the Principle of Universal Happiness (1) from the comparative study of morals and moral systems, (2) from the notion of an ultimate scientific principle, (3) from the fundamental constitution of will, (4) from general considerations pertaining to natural philosophy ; II. Denomination of the Principle ; III. The Nature of Happiness ; IV. Why Ethics cannot rest upon the mere feeling of Duty ; V. Vindication of the Principle against misunderstandings and objections.<sup>27</sup>

KANT'S *Prolegomena*, &c. Herausgegeben und historisch erklärt.  
VON BENNO ERDMANN. Leipzig : Voss, 1878.

"This edition is based on the view that the *Prolegomena* is composed of two parts essentially different in origin and tendency. Kant first intended a mere extract from the *K. d. r. V.* This was in great part completed, when he was moved by the Göttingen criticism to make insertions and additions of a historical and polemical cast. The different parts are separated accordingly in this edition. The Introduction (pp. 128), besides justifying the division, gives an outline of Kant's development from 1780 to '82, with a minute investigation of the relation of the *Prolegg.* to the first edition of the *K. d. r. V.*, resulting in conclusions not a little different from the views hitherto prevalent as to the doctrine of the *Ding-an-sich* and Kant's relation to Hume. (1) It is shown that Kant in 1781 connects his idealism exclusively with the result of the *Æsthetic*, and employs it in the *Dialectic* only against the psychological paralogisms and cosmological antinomies. The conclusions of the *Analytic* are conceived in an empiristic sense only. Owing this to the Göttingen criticism and other attacks, there takes place in the *Prolegg.* a change of doctrine, the attempt now being made to combine in a new way the assumption of active things-in-themselves, never doubted by Kant, with the conclusions of the *Analytic*. (2) It is shown, by a reference to Kant's own account of his development in the Dorpat MSS., that his veering-round in 1769 was not determined by Hume but by the doctrine of the Antinomy, and that the emancipative influence of Hume was not felt till 1772 (after the letter to Herz). Kant regarded himself therefore not as the opponent but as the follower of Hume.<sup>28</sup>

Zur *Grundlegung der Psychophysik*. Kritische Beiträge. Von  
GEORG ELIAS MÜLLER. Berlin : Grieben, 1878. Pp. 425.

"The first section treats of the psychophysical methods of measurement ; the author, among other things, trying to show that the 'method of mean errors' can give no trustworthy results, and also that the 'method of just observable differences' and the 'method of true and false cases' must be otherwise applied than hitherto. The second section subjects to a detailed consideration and critical sifting the whole series of experiments as yet undertaken in relation to E. H. Weber's law ; and the third is occupied with its interpretation. It is shown, against Hering, Langer, Brentano, Delboeuf, and others, that the approximate validity of Fechner's formula of measurement follows as a more or less probable consequence from the facts of Weber's law ; but that Fechner's psychophysical conception of the formula is far less probable than a physiological interpretation, and cannot be maintained without modification. The fourth section treats of the practical value of Weber's law."

## XII.—NEWS.

Mr W. H. S. Monck has been appointed to the Chair of Moral Philosophy in Trinity College, Dublin, in succession to Dr. M'Ivor.

Dr. Alexius Meinong, author of the *Hume-Studien* noticed in the present number, has qualified as *Privatdocent* in the University of Vienna.

The monument to be erected next year to Giordano Bruno at Rome will be supplemented by another national memorial of the philosopher. Professor Fiorentino has been charged by the Minister of Public Instruction with the preparation of a complete edition of his works. The Roman *Opinione*, of May 3rd, contains a description by Prof. Berti of some unedited works of the philosopher existing in autograph MS. in the Library of St. Petersburg.

The rendering of Mr Spencer's 'System of Philosophy' into other languages proceeds apace. Dr E. Cazelles, in France, and Dr B. Vetter, in Germany, have just completed the translations of the *Principles of Biology*. The series of chapters on 'Ceremonial Government,' begun in the January number of the *Fortnightly Review*, will enter into Vol. II. of the *Principles of Sociology*; the old mode of serial issue of parts to subscribers being now discontinued. These chapters are appearing simultaneously also in an American, a French, a German, an Italian, a Hungarian, and a Russian journal.

JOURNAL OF SPECULATIVE PHILOSOPHY. Vol. XII. No. 1.—W. James—'Spencer's Definition of Mind'. Hegel—'Symbolic Art' (transl.). Th. Gray—'The Nation and the Commune'. Rosenkranz—'Pedagogics as a System' (paraph.). G. B. Halstead—'Boole's Logical Method'. Notes and Discussions. Book Notices.

REVUE PHILOSOPHIQUE.—3me Année. No. IV. Ch. Lévêque—'L'Atomisme grec et la Métaphysique'. J. Sully—'Le Pessimisme et la Poésie'. L. Carrau—'Moralistes anglais contemporains: M. H. Sidgwick' (fin). Analyses et comptes-rendus (H. Spencer, *Principes de biologie*; Smiles, *Le Caractère*, &c.) Notices bibliographiques. Rev. des Périodiques. No. V. H. Marion—'John Locke, d'après des documents nouveaux' (H. R. F. Bourne, *Life of John Locke*). H. Spencer—'Etudes de Sociologie' (IV., V.). P. Regnaud—'Philosophe indienne: La Transmigration'. Analyses et comptes-rendus. Rev. des Périod. No. VI. A. Burdeau—'Le Tragique comme Loi du Monde, d'après Bahnsen'. A. Espinas—'Etudes nouvelles de Psychologie comparée' (Tissot, *De l'Intelligence et de l'Instinct dans l'homme et dans l'animal*, 1878; Vignoli, *Della legge fondamentale della Intelligenza nel regno animale*, 1877). H. Marion—'John Locke, d'après des doc. nouv.' (fin). Observations et Documents—'Le Sens de l'Espace, d'après M. E. de Cyon'. Analyses et comptes-rendus.

LA CRITIQUE PHILOSOPHIQUE.—VIIme Année, Nos. 7-19. C. Renouvier—'A propos de la peine de mort' (7); 'La question de la certitude' (10, 13, 18); 'La psychophysique appréciée d'après la doctrine mathématique' (12); 'La

caractéristique du crime capitale' (17). F. Pillon—'Quelques mots de M. Littré sur le libre arbitre' (8); 'La méthode en biologie—Cuvier, Blainville, Comte' (9); 'Le centenaire de Voltaire et de Rousseau' (9); 'Voltaire et Rousseau jugés par Comte' (13, 14); Frederic Bastiat' (15); 'Hommage à Voltaire' (19). P. Dupuy—'Opposition du catéchisme et de la morale rationnelle' (11). Ch. Pellarin—'Voltaire et Bossuet d'après la *Revue des deux Mondes*' (19). Bibliographie (A. Mouchot, *La réforme cartésienne étendue aux diverses branches de Mathématiques pures* (8); Ch. Secretan, *Discours laïques* (16); B. Perez, *Les trois premières années de l'Enfant* (17)).

LA FILOSOFIA DELLE SCUOLE ITALIANE.—Vol. XVI., Disp. 3. G. Jandelli—'Del Sentimento' (III.). T. Mamiani—'Filosofia della Religione.' A. Martinazzoli—'Del primo conosciuto e del primo inteso.' F. Bertinaria—'Il problema dell'incivilimento'. Carteggio. J. C. Doni—'Del Coraggio, Trattato morale'. N. N.—'Appunti sul Darwinismo'. Bibliografia, &c. Vol. XVII. Disp. 1. La Direzione—'Avvertimento al lettore'. T. Mamiani—'Se il bello sia progressivo'. G. M. Bertini—'Sulla filosofia moderna contemporanea'. M. J. Monrad—'L'idealismo assoluto'. L. Ferri—'I limiti dell'idealismo'. J. C. Doni—'Del coraggio'. L. Ferri—'La filosofia scozzese e il suo ultimo storico, McCosh'. Bibliografia, &c. Disp. 2. T. Mamiani—'Le due psicologie'. A. Marconi—'La critica nella questione della spiritualità dell'anima umana'. R. Bobba—'La dottrina della libertà secondo Herzen et Spencer in rapporto colla morale'. C. Cantoni—'G. M. Bertini'. Bibliog., &c.

PHILOSOPHISCHE MONATSHEFTE.—Bd. XIV., Heft 3. H. v. Kleist—'Plotin's Kritik des Materialismus'. Recensionen u. Anzeigen (Harms, *Die Philosophie in ihrer Geschichte*; Kapp, *Grundlinien einer Philosophie der Technik*; Deussen, *Die Elemente der Metaphysik*; Barach, *Kleine philos. Schriften*; Pfenniger, *Der Begriff der Strafe*; Espinas, *Des Sociétés animales*). Litteraturbericht (Flint, *Theism*, &c.). Bibliographie, &c. Heft 4. A. Franck—'Ueber E. v. Hartmann's *Phil. des Unbewussten*'. A. Stadler—'Ueber die Ableitung des psychophysischen Gesetzes'. Rec. u. Anzeig. (Gwinner, *Schopenhauer's Leben*; Fontana, *Idea per una filosofia della storia*; Hartmann, *Das Unbewusste vom Standpunkte der Physiologie u. Descendenztheorie*; Hoffmann, *Philosoph. Schriften*). Horwicz, Böhm—'Zur Theorie des Gedächtnisses u. der Erinnerung' (Replik, Duplik). Bibliog. Heft 5. K. Ch. Planck—'Das Causalgesetz in seiner rein logischen u. in seiner realen Form'. L. Weiss—'Herder u. die moderne Naturphilosophie'. Rec. u. Anzeigen. (Michelis, *Die Philosophie des Bewusstseins*; Meinong, *Hume-Studien*; Rabus, *Philosophie u. Theologie*; Schramm, *Die Erkennbarkeit Gottes in der Phil. u. in der Religion*; Erdmann, *Grundriss der Gesch. der Phil.* 3te Aufl.) Litteraturbericht. Bibliog.

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE.—Bd. II. Heft 3. W. Windelband—'Ueber den Einfluss des Willens auf das Denken'. H. Vaihinger—'Das Entwicklungsgesetz der Vorstellungen über das Reale' (I.). H. Weissenborn—'Ueber die neueren Ansichten vom Raum u. von den geometrischen Axiomen' (II.). Recensionen. Selbstanzeigen.

ZEITSCHRIFT FÜR PHILOSOPHIE, &c.—Bd. LXXII., Heft 2. F. Bertram—'Die Unsterblichkeitslehre Plato's' (I.). Th. v. Varnbüler—'Das reine Denken'. E. Dreher—'Zum Verständniss der Sinneswahrnehmungen' (III.). M. Schasler—'Zur Geschichte der Ironie'. H. Ulrici—'Psychophysische Fragen u. Bedenken'. K. Kehrbach—'Replik, &c.'. Recensionen. Bibliographie.